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JUNE 2009

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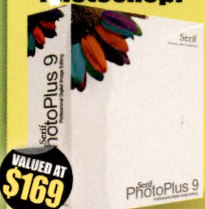
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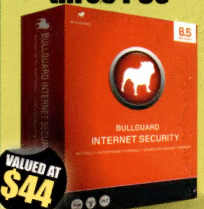
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PC USER
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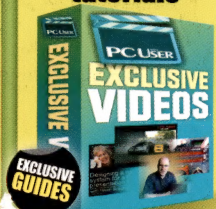
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06

Getting your kicks out of osteopathy and QuickBooks

Footy has been good to Jason Stone. During his eight years of Human Movement and Osteopathy degree study, Mr. Stone developed relationships with several Melbourne clubs. Add in lengthy head trainer and club osteopath stints at the Box Hills, Blackburn and Boronia Football clubs, the later of which he is still the club osteopath, and there's no question the now Dr. Jason Stone knows a bit about sports injuries.

Make that everything from chronic neck, back, shoulder and headache problems to acute sports injuries – all catered for at Wantirna Osteopathy, the Victorian winner of 2008's Small Business Champion Awards in the Health & Fitness Services category.

Since 2001, Dr. Stone and his staff have specialised in bringing bodies of all ages back to good health. An average week sees approximately 125 patients checking in for treatment and there are literally thousands of patients on the books.

While finding solutions to each patient's ailment is second nature, bookkeeping isn't. Wantirna Osteopathy, in the Melbourne suburb of Wantirna South, has utilised QuickBooks' Premier accounting software since the business' inception to process thousands of patient records, invoices and statements plus payroll, GST tracking and much more.

"Not only is QuickBooks excellent for recording income and expenses, generating BAS statements and invoicing patients but it has a fantastic report section for monitoring all aspects of the business," Dr. Stone said, adding he installed the software on the advice of his accountant.

"I regularly generate reports and graphs to monitor and compare monthly income and expenditure. The report section in QuickBooks can be customised to provide you with any information about your business."

Osteopathy heals based on the manipulation of bones or muscle. In conjunction with conventional medicines and surgeries, the practice utilises manipulation to remedy body parts affected by disturbances in the musculoskeletal system.

Those disturbances, Dr. Stone notes, aren't going away. Increased work hours, less exercise and increased stress are all playing a part in adding to society's medical woes.

"Lower back and neck pains are the most common ailments [we treat]," Dr. Stone said. "And they're usually caused by people spending a lot of their time working in front of a computer."



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DVD Contents

Want to install software from a CD onto a netbook? This is just one of the handy things you can do with our exclusive CD/DVD ripping and mounting software, PC User DiscJockey, as explained on page 86. We've also included guides to using the other full versions, starting on page 94.

Using the DVD

The PC User cover DVD requires a DVD-ROM drive. Internet Explorer 6 or later is recommended for easy installation of the software. Most of the software on the disc requires a fairly recent version of Windows, although each program has individual requirements, which are indicated on the disc. **Please note** the other requirements and limitations on the DVD cover. **Don't have a DVD drive?** We'll mail you a free CD with selected software from the DVD. Just go to www.pcuser.com.au/cdmail. This month's CD code is **PCUCD0609A**. **Need help?** See the back cover of the DVD for details on how to use the DVD and how to get help.

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Get started with Ashampoo Core Tuner 1.02, Get started with Serif PhotoPlus 9, Get started with UltraISO, Get started with BullGuard Internet Security 8.5

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* Unless indicated otherwise, the listed programs may be shareware or trial versions.



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FROM THE EDITOR

Rudd's \$43 billion bet

Glenn Rees wishes the government good luck in its uphill battle to launch the national broadband network.

It was a brave and bold move. In the biggest surprise in federal politics since Paul Keating won the 1993 election, Kevin Rudd recently announced a \$43 billion national broadband network (NBN). Forget the piddling \$4.7 billion NBN promised in 2007. Forget the constant regulatory wrangling with Telstra over access to the copper phone wires to our homes. This announcement promises to neatly solve two huge telecommunications problems at once: the need for a 21st century broadband network, and Telstra's monopoly of critical fixed-line infrastructure.

That's because the \$43 billion NBN is to be a fibre-to-the-premises (FTTP) network, while the previous \$4.7 billion NBN would have been fibre-to-the-node (FTTN), still relying on Telstra's telephone lines for the final loop to our homes.

As Mr Rudd said in announcing the new NBN: "The broadband network will be Australia's first national wholesale-only open-access broadband network not controlled by Telstra. This solves, once and for all, the core problem created when the previous Prime Minister privatised Telstra a decade ago without ever resolving the conflict of a private monopoly owning the network infrastructure and dominating the retail market."

I couldn't have said it better myself, but the government may not stop there, because it also released a discussion paper, *The National Broadband Network: Regulatory Reform for 21st Century Broadband*. In it, Communications Minister Stephen Conroy mentions a number of key reform options, including, "promoting greater competition across the industry, including measures to better address Telstra's vertical integration, such as functional separation" (see <http://tinyurl.com/ctpqdw>). "Functional separation" basically means enforcing greater effective separation of Telstra's wholesale and retail divisions, in the same way the UK and New Zealand have done to ensure their dominant telcos give competitors open and affordable access to vital infrastructure. The paper also canvasses the option of forcing Telstra to sell its cable TV infrastructure and stake in Foxtel.

Of course, any regulatory changes and the NBN itself are a long way from being realised, but with these two announcements the government is effectively holding a gun to Telstra's head. There have already been reports that Telstra may now

be open to some type of separation (see <http://tinyurl.com/dxxccw>). If that proves to be correct, it would be a big backdown from the company that has regularly locked horns with both the government and Australian Competition and Consumer Commission (ACCC).

Of course, the obvious direct benefit of the NBN will be speed — 100Mbps, or roughly 100 times faster than most current broadband connections, according to the Prime Minister. However, that seems to be an arbitrary figure, because technically, a FTTP network is capable of far greater speeds.

However, before you start salivating at the prospect of all that speed, there are some very big problems facing the NBN. Opposition leader Malcolm Turnbull and others have questioned the viability of the project and they may have a point, considering the government is hoping to attract nearly half of the \$43 billion funding from private investment. Mr Turnbull may also be correct that the government and taxpayers may get a poor return on investment when it comes time to sell the NBN infrastructure company after five years of operation, as Mr Rudd has promised.

That sell-off may be a ticking time bomb in another sense, too: if a retail telco ever manages to gain a controlling interest in the NBN infrastructure company, we could find ourselves in the same position with the NBN in the future that we have with Telstra and its fixed-line services now. To counter this possibility, the government has started off on the right foot, with the release of the regulatory discussion paper. However, it's far from a guarantee for the future.

Another problem is the prospect of a greater digital divide in the future, as 10% of Australians won't get access to the FTTP network. Instead, they will have to make do with wireless and satellite broadband of up to 12Mbps. While that's fast by today's standards, country dwellers may find themselves left behind again, as advanced, high-bandwidth applications are developed to take advantage of FTTP technology.

Despite these problems, and whether the NBN is a good short-term return on investment or not — I'll be hoping it somehow gets off the ground. Over the long term, FTTP, as a future-proof technology, will be worth every cent we spend on it — as long as it remains open and affordable.

PC & UPGRADE BUYER'S GUIDE

Listed prices: The listed pricing in PC User's reviews are generally recommended retail prices. But where possible, we've used the lowest common prices that we could find on Australian online retail sites during mid-April. We do this because street pricing often bears little resemblance to the RRP. However, note that pricing varies and changes rapidly, so shop around yourself. Start with the online retailers advertising in PC User, www.staticice.com.au and an Australian Google search. Remember to check out the delivery and other charges, too.

NEXT
MONTH



letter of the month prize

Thanks to Anyware Computer Accessories, this month's letter of the month prize winner will receive a Compro VideoMate Vista E900F Dual Digital/Analogue Hybrid TV tuner with remote control. It is valued at \$249 and allows you to view and record television programs simultaneously.

Kids & the internet

Sender: **David Birchall-Hunt** / West Lakes Shore, SA

I have been assisting retired folk for some time now and have found the following three simple techniques quite valuable with regards to younger children accessing their parents' and grandparents' home computers.

- * Set up two (or more) accounts on the PC: one for the parents and the other(s) for the children. This will avoid the parents' account gaining clutter from the children's activities. New accounts can easily be set up as old ones become cluttered.
- * Use a free Google or Hotmail email account for children. This will remove the need for them to access parents' accounts.
- * Use Google as the internet home page and click 'Advanced search preferences' alongside the search box, then select English for the language and 'Use strict filtering' for 'SafeSearch Filtering'.

Then, save your preferences at the bottom of the page.

No filtering is 100% effective; however, this is a reasonably effective and free technique for our younger folk. You can test the feature by searching for words like **naked** or **nude**.

Thanks for an excellent magazine.

The writer of the best letter to PC User each month wins a prize. Just send your letter of no more than 300 words to PC User (see 'Contact us', page 7), and please include your postal address and daytime telephone number. Entry is open to all residents of Australia other than employees of ACP Magazines. Entries for July close on May 15. The judges' decision is final. All entries become the property of ACP Magazines.

LETTER
OF THE
MONTH

FAKE USB KEYS

Sender: **Peter Spanhel** / Internet

I saw your recent article on USB memory sticks (*PC User* May, page 28) and noticed that there was no mention of the proliferation of fake USB memory sticks being sold on eBay.

I was caught late last year when I purchased two 16GB USB sticks for about \$20 each (including postage) from Hong Kong. I thought it was a good price, until earlier this year when I tried storing a few GB of files and found that they were being corrupted. Some searching found that it's very common on eBay to receive these fake USB sticks. In my case, the manufacturer put a 2GB memory chip in the device and then coded the controller chip to show 16GB.

Under Windows, Windows Explorer sees the drive as a normal 16GB flash drive, but when you write more than the real memory available, some of the information is overwritten, causing corruption of the data. A little more searching found that you can reflash the controller chip so it reports the correct memory to Explorer. That way, at least I have reliable 2GB USB memory sticks. This same deception is also common on 8GB and 16GB MP4 players.

If you want to check your USB memory just use a program called H2testw. It writes multiple 1GB test files to fill your device and then reads them back to check for corrupted data. It will then report on the real memory available. The program is available from

www.heise.de/software/download/h2testw/50539. It's a German web site, but the download link is quite obvious (there's also an English button in the actual software). The programs to reflash the controller vary according to the brand of the chips in the device. Just do a Google search for **How to fix fake USB drives** for more information.

ENVIRONMENTALLY UNFRIENDLY

Sender: **John Holmes** / Woodford, NSW

I notice it has become fashionable for more and more manufacturers to push the fact that their products are greener and more responsible towards saving the environment, an attitude that many of us applaud.

It's a pity this attitude doesn't apply to the packaging in which the products are presented. When is someone going to bite the bullet and stop packing their products in enormous containers? For instance, most motherboards, CPUs, graphic cards and other accessories are packed in cardboard boxes far in excess of the item dimensions, and software companies are even more at fault.

I have just purchased another copy of Microsoft Office 2007 and it was delivered in a plastic box that contained nothing else than a DVD, yet it seemed it was big enough to include a small novel! Come on people, get with the program.

I would like to add that I have enjoyed your excellent and informative magazine

for many years, and thank you for the many times you have saved me money and frustration with your great technical reviews and advice.

WHICH WAY IS UP?

Sender: **Robin McGrath** / Internet

Every time I go to plug in a USB device, I invariably get the plug upside down. Cables, flash drives, card readers, cameras, you name it — upside down every time. This causes a lot of bad language and unsavoury references to the makers, who don't seem able to design a fitting that can show at a glance, or just by feel, which way is up! Anyone who has fiddled in the cramped space behind a computer and/or in the dark trying to plug in a USB will know what I mean.

Why can't the manufacturers come up with a socket/plug for USB devices that's designed so there's absolutely no doubt about which is the right way to insert into the socket? A FireWire connection, for example, comes close, but is still fiddly.

Some USB plugs have a white locating platform inside the plug, which is fairly easy to see, and others have it in black, which is almost impossible to see. Neither are any use, however, if the orientation of the socket can't easily be seen. I think manufacturers should agree to use the same insert colours and to always orientate the USB sockets the same way up on everything.



WHERE'S THE PIRACY?

Sender: **Michael Dunhill** / Internet

If I live in Australia (region 4) and buy a legitimate DVD or Blu-ray disc from a legitimate source, such as www.amazon.com (region 1) or www.amazon.co.uk (region 2), why am I prevented from viewing it? Where's the piracy?

Should American manufacturers be allowed to make nails that don't work with Australian hammers? Should British manufacturers be allowed to make screws that don't work with Australian screwdrivers? Should European manufacturers be allowed to make bolts that don't work with Australian spanners? If the DVD is legitimate and obtained legitimately from a legitimate source, why am I prevented from viewing it?

In the meantime, the electronic lockout system on my Blu-ray player has worked better than the industry intended, but not in the way they envisaged. I haven't bought a single Blu-ray DVD and won't even consider buying one — until my Blu-ray player is made region-free.

BURNING BACKUP DISCS

Sender: **David Jerman** / Internet

I was reading the May issue and in the article about CD/DVD burning ('The ultimate burning guide', page 64), you mention that we are allowed to make backup copies of the discs we own/or have the copyright to, but we are not allowed to bypass the protection on the discs.

It seems strange that we can legally do this, but we have to bypass the protection on the disc in the first place to make a backup copy! So, in effect, we are still breaking the law. It is a catch-22 situation. I feel that the whole scenario is very confusing.

So are we or aren't we allowed to do this? Some say no and some say yes. What needs to be done is a clear point to the letter on what



MICROSOFT OFFICE ON THE CHEAP

Sender: **Peter Gadsby** / Rivett, ACT

Are you a uni or TAFE student, or faculty member? You may be eligible to pick up a copy of Microsoft's Office

Ultimate 2007 for only \$75 — that's 90% off the recommended retail price!

In its desire to eliminate piracy of its products in the tertiary education sector, Microsoft has instituted the 'It's Not

Piracy' program, and has extended it indefinitely. Check out www.microsoft.com/student/discounts/itsnotcheating/.

Subject to various conditions, you can acquire a registered copy of Office Ultimate, including Access 2007, Outlook 2007, Excel 2007, PowerPoint 2007, Groove 2007, Publisher 2007, InfoPath 2007, Word 2007 and OneNote 2007. There's also a chance to win a \$5,000 cash prize.

Now there's a bargain!

you can do. Currently there isn't, and you can still be done even though you're doing it for your own backup purposes.

DOWNLOAD FLASH GAMES

Sender: **Cameron Wishart** / Vic

PC User continues to impress me. At 13, I am still gaining lots of knowledge to customise my computer and *PC User* helps me along the way.

I have found a neat trick for those people who play a lot of flash games on the internet. However, if you have a low download limit (for example, 200MB), you will run out of usage pretty soon. I have found a way to download the flash games and play them from your hard drive using the Adobe Flash Player (www.adobe.com/products/flashplayer/).

First, what you have to do is load the game that you want to download — it is very important that you wait for the game to load before you start. Once it loads, in Firefox click File → 'Save Page As' and under 'Save as type', it should say 'Web Page, Complete'; keep it like this. The default name is the name of the web page, but you can call it whatever

you like and it will save the webpage in a folder with all the contents of the page. For Internet Explorer users, go to File → 'Save As', make sure that under 'Save as type', you switch it to 'Webpage, complete (*.htm;*.html)' and then save the folder with whatever name you want.

Go to the folder and you should see a lot of files in there. You will be looking for the .swf flash files. Depending on the web site, there may be many flash files, but the one you want will most likely be called the name of the game. Simply double-click the .swf file and enjoy your game offline!

More on ink

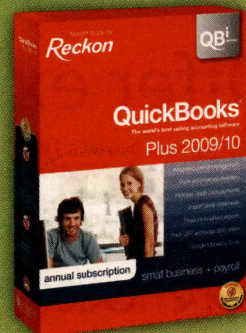
In the May issue of *PC User* ('Quality ink', page 9), reader Kurt states that using third-party inks will void your printer warranty on certain repairs. This may occur if it can be proven that the third-party ink was the cause of the damage.

Also in May ('Cheaper ink cartridges', page 9), reader Jane Jones mentions Cartridge World's chip resetting service. Please note that this service works for selected older printer models — contact your local Cartridge World to see if your printer is supported.

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Subscribe to *PC User* this month for a chance to win one of 25 QuickBooks Plus 2009/10 QBⁱ series 12-month subscription versions, valued at \$295, including free upgrades for 12 months!

See page 98 for more details.



MIX BUSINESS WITH PLEASURE

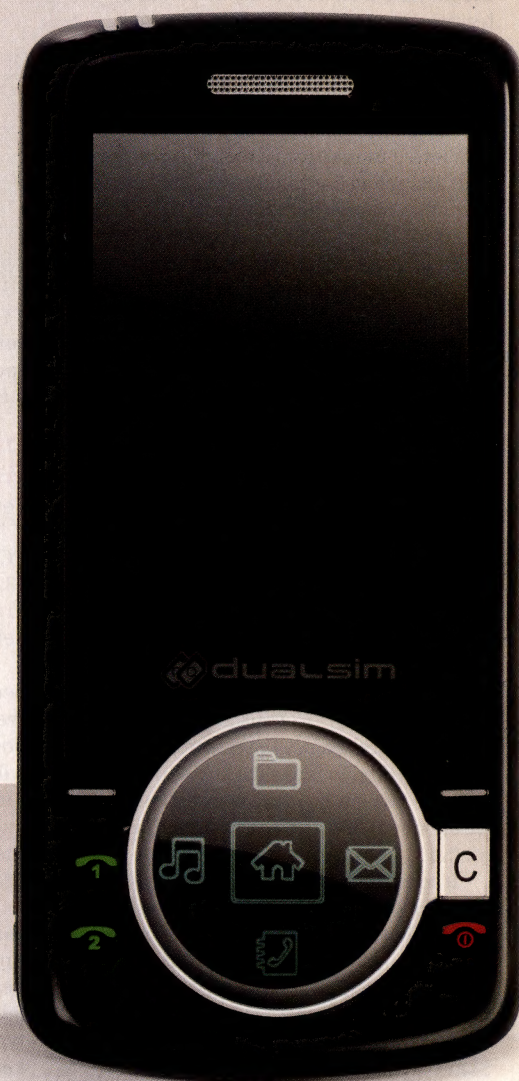
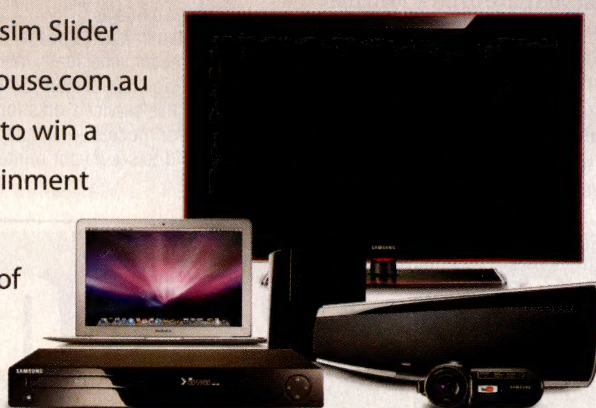
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TEST BENCH

HARDWARE / SOFTWARE / COMPONENTS

True mobile broadband?

The **PC User** team tests the latest hardware and services, including Telstra's new 21Mbps Next G modem.

TELSTRA TURBO 21 MODEM

PRICE \$499 / **CONTACT** TELSTRA / **PHONE** 13 76 63 / **WEB** www.bigpond.com

Telstra launched its 21Mbps USB Next G modem, designed to let you get wireless broadband on your notebook from pretty much anywhere, with a ton of hype. It's a bit worrying then when even Telstra doesn't believe its own spiel — it admits that the likely outcome for most consumers with this \$499 modem is more likely to be in the 8Mbps range (at best). The 21Mbps modem currently works only on Windows systems; Linux and Mac users would be better served with the older 7.2Mbps USB modem, which Telstra will continue offering at a \$299 price

point, plus plan costs. At \$499 for this newer model, you're paying a near 50% premium in return for speed, or at least that's the theory. Telstra has nailed the easy installation at least, with a bright, colourful interface that leaves a simple system tray-led login system. However, you'll need to carefully choose your exact plan when you log in because Telstra's array of confusing plan choices continues, which could lead to unexpected or unwanted charges. Like many current USB modems, it also doubles as a

portable flash drive, thanks to a microSD card slot. We tested the modem across the wider Sydney metropolitan area, figuring we'd at least come close to hitting Telstra's claimed 8Mbps or near it somewhere. We

never did — our best result was 4.09Mbps line speed with an average download speed of 512KB/s, and that was on a carpark roof. Arguably, that's not much of a working environment. Inside buildings we saw a huge amount of variability, all the way down to a line speed of 660Kbps with a paltry 82KB/s download. It's worth bearing in mind that most of our figures were faster than those we could get with the 7.2Mbps model, although often not by much. The 21Mbps modem is also a tiny bit slimmer than its 7.2Mbps counterpart, but in common with many flash drives, it will still block adjacent USB ports on some notebook systems. Telstra doesn't charge extra for using the 21Mbps modem on its data plans, but unless you really need that extra bit of speed, we'd stick with the older, cheaper and cross-compatible modem for now.

— Alex Kidman

PC User says: Fast, but not quick enough to justify upgrading for existing Telstra users.



_UP & COMING

With the netbook market now more or less saturated, we're seeing a number of manufacturers trying to capitalise on the success of the low-power, low-cost concept with all-in-one desktop equivalents. You can read our review of the ASUS Eee Top 1602 and MSI NetOn AP1900 on page 12 in this issue, and it looks like more examples are on the way. Shuttle has recently released the X50 all-in-one in Australia (pictured to the right), which features a built-in touchscreen like the ASUS Eee Top 1602. Acer reportedly has the Atom-based EZ1600 in the pipeline (under its eMachines label), though it's currently unclear whether this will reach our shores. We're not entirely convinced about the value of all-in-one desktop systems, given that much more powerful



desktop PCs are available for the same (or lower) prices. However, it will be interesting to see what competition does to this area and what innovation the touchscreen interface allows.

MSI NETON AP1900

PRICE \$899 / **CONTACT** MSI / **PHONE** (02) 9748 0070

WEB www.msicomputer.com.au

With low-cost netbooks shaking up the notebook market, some vendors are hoping to do the same with skinny desktops called 'nettops' or 'net all-in-ones'. While we're not completely against the idea, we wish someone would come up with a better name. Given the value shown in its new NetOn AP1900, we reckon MSI should get first crack at it. In broad brush strokes, the AP1900 is a netbook built into the back of a 19in widescreen LCD monitor. Add in a 1.6GHz Intel Atom N270 processor with 1GB of memory, 160GB hard drive, Windows XP Home Edition operating system and you can see it's pretty much a Wind U100 in a desktop form. The one difference here is the inclusion of an LG GT10N DVD burner — yes, this thing comes with an optical drive vertically mounted into the back of the screen. You also get a basic USB keyboard and mouse. What's most impressive about all of this is the \$899 price tag — ASUS couldn't get close to that with its nettop (below). But any enthusiasm

here has to be tempered by the fact that for the same \$900, our PerfectPC software can build a 2.7GHz Pentium Dual-Core E5400 desktop PC with three times the hard drive storage and four times the processing speed (six times if you overclock it). Compared to this, the AP1900 doesn't look quite as slick. Last month's Altech SysEuropa-03G (*PC User* May, page 13) also sold for near this price (\$849 without a monitor), so you can see how it compares for performance. What you're getting here with the AP1900 hints of iMac-esque overtones, but given the price, we'd be wanting a bit more speed for our dollar.

— Darren Yates

PC User says: A cheap all-in-one with an optical drive, but not a lot of processing speed.



ASUS EEE TOP 1602

PRICE \$1,299 / **CONTACT** ASUS / **PHONE** 1300 278 788

WEB www.asus.com.au

In some ways, to call the Eee Top 1602 a poor man's iMac is a bit rough; the unit's inclusion of the 15.6in touchscreen LCD panel is arguably more useful in some niche industries. However, for practical home use it just falls a little wide of the mark. First up, like the MSI nettop above, the 1602 is basically a netbook bolted inside a widescreen LCD monitor. Unlike the NetOn, however, this one doesn't include an optical disc drive. The touchscreen-friendly ASUS Easy Mode software that accompanies the machine's Windows XP Home operating system gives glimpses of that screen's potential, but as soon as you hit a traditional application (such as a word processor or web browser, for example), you're quickly looking for the mouse and keyboard. The touchscreen is a nice gimmick, but it simply isn't practical for most everyday applications. The fact that the 1602 is also based on netbook hardware means it's pretty slow. In fact, the UserBench Encode score of 7.23 is slower than virtually all Atom N270-based netbooks we've tested so far. Otherwise, the unit has the usual trimmings, including Ethernet and six USB ports, although the accompanying keyboard and mouse consume two of these. Intel's integrated graphics can't handle gaming

of any note, but the 160GB Seagate hard drive and multifunction card reader at least give you some decent storage. However, the real problem for ASUS is that at this price you can build a cracking desktop PC, with truckloads more speed and storage.

— Darren Yates

PC User says: Kudos for trying something different, but it's just too slow and impractical with XP.



TEST RESULTS

| | MSI NetOn AP1900 | ASUS Eee Top 1602 | Altech SysEuropa-03G^ |
|---|------------------|-------------------|-----------------------|
| UserBench Encode 2009 (score) | 8.34 | 7.23 | 40.41 |
| - Audio encoding time/rate (minutes:seconds/MBps) | 8:09/1.33 | 9:12/1.17 | 1:37/6.67 |
| - Videoencoding time/rate (minutes:seconds/fps) | 5:38/22.14 | 6:42/18.61 | 1:13/102.29 |
| UserBench Image 2006 (minutes:seconds) | 7:29 | 8:38 | 2:27 |
| UserBench Security VR 2007 (minutes:seconds) | 8:19 | 9:30 | 3:28 |

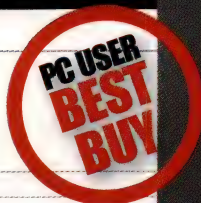
For UserBench tests with time-based scores, lower is better; for UserBench tests with MB/s and fps scores, higher is better.

^ See *PC User* May, page 13, for full review.



QNAP TS-439 PRO TURBO NAS

PRICE \$1,350 / **CONTACT** BLUECHIP INFOTECH
PHONE 1300 727 474 / **WEB** www.qnap.com



This four-bay network-attached storage (NAS) device has an extraordinary array of features. Packing an Atom processor, it will work well in just about any environment, and setting it up is easy. You install up to four SATA hard drives, switch the device on and use the front-mounted LCD panel to run through the basic options. Later, you can change the configuration to RAID 0, 1, 6 or JBOD. Further configuration is managed through the web interface, where things can get technical. Basic file sharing is quite easy to set up, but some of the more advanced options can be challenging. The unit supports an array of services, including Windows (CIFS) and Unix (NFS) file sharing, FTP, UPnP, DLNA (for sharing with network media players like the Xbox 360 or PS3), HTTP (with web browser access to files), iTunes sharing and more. You

can also set up a web site on it using its integrated web server, have it act as a client for BitTorrent and eMule downloads, and set it up as a print server. It's possible to install new software into the NAS, so the sky's the limit when it comes to software support. It's an iSCSI target, so can be used to expand server storage capacity, and it supports encryption and replication on stored data. It has two Gigabit Ethernet ports and supports load balancing and failover between them. There are five USB host ports for printers or external USB storage devices, and two eSATA ports. It performed very well in our tests, with RAID 5



write performance in excess of 40MB/s.

— Nathan Taylor

PC User says: Everything you could ask for in a four-port NAS.

SONY HDRCX100

PRICE \$999 / **CONTACT** SONY / **PHONE** 1300 137 669 / **WEB** www.sony.com.au

Based on our recent video camera reviews, it's looking like the ultimate digital video device is an HD camcorder that captures straight to flash memory. Many vendors offer compact cameras with easy removable storage and up to 1,920 x 1,080-pixel video, but where Sony's stands out is on price. Online, the CX100 goes for roughly \$999. That's great value, but the trade off is that it only captures interlaced 1080i video. When you watch panning 1080i video on a progressive-scan monitor or TV, the result looks a bit like running the image through a shredder. This can be fixed with deinterlacing software filters, but resolution

suffers. Otherwise, the quality is pretty good. The camera comes with 8GB of onboard storage and uses Memory Stick PRO Duo media. An 8GB card will cost about \$75 online. It captures in AVCHD format with H.264 video compression, and you can copy that to DVD and play it in your Blu-ray player or PS3. Its 10x optical zoom is smooth, as is the electronic image stabiliser, and you can capture stills up to 4MP (2,304 x 1,728 pixels).

— Darren Yates

PC User says: A compact, low-cost HD video camera, but it only captures video at 1080i.



TP-LINK TL-WR340G

PRICE \$45 / **CONTACT** ANYWARE COMPUTER ACCESSORIES / **PHONE** 1300 269 927 / **WEB** www.tplink.com

This fairly basic wireless router piqued our interest because of its very low price. It offers no frills, is a little complicated to set up and is ugly, but for \$45 it's tough to complain. It should be made clear that it's not an ADSL router. It doesn't incorporate a modem and because of that, its main function for most will likely be to serve as a wireless access point and four-port wired hub on a small network. That's a task it performs capably, especially with its large 5dBi antenna and WDS support, which allows it to extend the range of an existing wireless network. It only supports wireless 802.11g up to 54Mbps and 100Mbps wired Ethernet; if you want 802.11n and Gigabit Ethernet speeds, you'll have to fork over a bit more cash than this. We set it up as

both a standalone access point and as part of a WDS network (with a NetComm NB9) and it worked well in both cases, providing good reception at range and talking seamlessly with the existing network. It could have been easier to set up, however. TP-LINK doesn't do much to shelter the user from the technicalities of network setup — even the help system is full of unexplained jargon. If you have some familiarity with networking, it's very responsive and quite efficient to set up, and you have plenty of options to play with. Initially, we thought its main virtue was its price, but the high-powered antenna and easy integration with WDS make it a capable addition to a local network. It's technical and doesn't support the latest



wireless technology, but it worked well enough in our testing for us to recommend it to users looking to expand their existing network.

— Nathan Taylor

PC User says: It's a little retro and technical, but it gets the job done and it's a bargain.

DELL STUDIO XPS 16

PRICE \$3,227 (WITH 8GB RAM) / **CONTACT** DELL

PHONE 1800 812 393 / **WEB** www.dell.com.au

The Studio XPS 16 is one of the more serious notebook computers we've tested in recent months, packing in an array of top-drawer features, including some we haven't ever seen before. Intel's Core 2 Duo P8600 processor clocks in at 2.4GHz, but combined with the 64-bit version of Vista Ultimate plus a cool 6GB of memory (and retail models now seem to have been upgraded to 8GB), it delivered UserBench Encode scores that are very close to the best we've seen on any notebook. The Samsung 500GB HM500LI hard drive and Optiarc AD-7640S DVD burner round out storage, but it's the peripheral features that are worthy of note. The 16in screen features 1,366 x 768-pixel resolution, so it's a true 16:9 aspect ratio screen (rather than the 16:10 ratio that most widescreen notebooks are these days), making it more suited to watching movies. The LCD screen is only one of your options — it's also equipped with

HDMI, DisplayPort and VGA outputs, so you'll struggle to find a monitor or big-screen TV you can't plug this thing into. External storage options are also good, with the standard SecureDigital/Memory Stick card reader, plus FireWire, eSATA and USB. It also features draft 802.11n wireless networking and Bluetooth. The Mobility Radeon HD 3670 graphics chip is good enough to push *Half-Life 2: Lost Coast* to 81.5fps at 640 x 480 pixels, so gaming isn't out of the question either. The battery life from the 11.1V/56Wh battery wasn't too bad for a performance machine, ticking in at just under 2 hours 30 minutes. The weight nudges the 3kg mark, however, so it's not quite as slim as it looks.



— Darren Yates

PC User says: Excellent video options, storage and performance, but pricey.

MSI X340

PRICE \$1,699 / **CONTACT** MSI / **PHONE** (02) 9748 0070

WEB www.msicomputer.com.au

MSI's new X340 notebook fits into the same niche as the Macbook Air — it's somewhere between a netbook and fully-fledged ultraportable, and MSI markets it as the 'incomparable ultraslim experience'. That may be true because while the X340 is significantly cheaper than the Air (by over \$1,200 at the time of writing), they're not really comparable, primarily because the X340 doesn't offer quite the same build quality. In fact, the sacrifices made to meet its low price point serve to undercut its overall value (assuming such a thing exists

for vanity laptops) and appeal. For \$1,699 you get a respectably portable laptop that weighs only 1.65kg with its power brick, and offers an attractively thin, curved design that's more than a little reminiscent of the Air. Throw in a 13.3in (1,366 x 768-pixel) screen, 320GB hard drive, 2GB of memory and an Intel processor with Windows Vista Home Premium, plus a webcam and 802.11n wireless networking, and it's a good-looking package on paper. In practice, however, it's a little less appealing. The 1.4GHz Core 2 Solo CPU and integrated Intel GMA4500 graphics chip produce UserBench results higher than most netbooks, but not enough to make it useful as a media or gaming machine. The four-cell battery lasted 2 hours 19 minutes, which means it's no road warrior either. There's also no optical drive, though that's not entirely unexpected given the slim design. What's more, for a machine that largely trades on visual appeal, the X340 looks and feels a little cheap in person



— the keyboard flexes alarmingly in the centre and lid itself is a bit flimsy. MSI offers better products both above and below the X340's capabilities, and often for less money. If you're after a low-cost portable PC, we'd err towards the excellent Wind U100 netbook first.

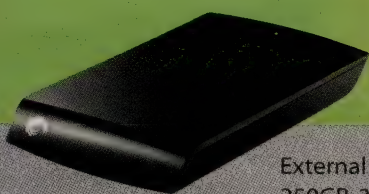
— Dominik Krupinski

PC User says: Slim and light, but underpowered and with average build quality.

TEST RESULTS

| | Dell Studio XPS 16 | MSI X340 |
|---|--------------------|-----------|
| UserBench Encode 2009 (score) | 34.52 | 15.72 |
| - Audio encoding time/rate (minutes:seconds/MB/s) | 1:56/5.59 | 3:29/3.10 |
| - Video encoding time/rate (minutes:seconds/fps) | 1:23/89.6 | 3:50/32.6 |
| UserBench Image 2006 (minutes:seconds) | 2:47 | 4:52 |
| UserBench HL2:LC 2008 (640 x 480 pixels) average fps | 81.5 | 19.8 |
| UserBench Battery 2008 (hours:minutes) | 2:29 | 2:19 |

For UserBench tests with time-based scores, lower is better; for UserBench test with MB/s and fps scores, higher is better.



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Bang-for-buck notebooks

Darren Yates tests the latest notebook computers priced under \$1,500 and \$2,000.

Notebook vendors do most of their business in this sub-\$2,000 price bracket and the recent boom of netbooks means your options are as diverse as they've ever been. In the end, deciding on the right notebook is often a trade-off between features and price. General performance, features and battery life should be high on your list, no matter which model you're looking at and no matter your budget. Not all of the models here managed to deliver well on everything, but there are a wide range of options that provide a good overview of what's available.

Why no Best Buy?

Unfortunately, in our view none of the notebooks we tested for this feature nailed the trifecta of performance, features and price. The ASUS X58LE delivered great speed, but little in the way of peripheral extras. Most of the more expensive models were lacking in application speed, battery life or both. In the end, it was decided no one particular model deserved a Best Buy award, although a number of units we tested are still well worth a look for prospective buyers.

Missing in action

We asked a wide range of vendors to supply notebooks for this story, but Acer, Toshiba, Sony and Dell declined our invitation and did not submit any products. As such, we are unable to recommend any of these companies' notebooks in this feature.

NOTEBOOKS UNDER \$1,500

ASUS X58LE

PRICE \$1,499 / **CONTACT** ASUS / **PHONE** 1800 278 788 / **WEB** www.asus.com.au

The X58LE stands out for storage and performance and delivers better all-round functionality than most, as well as double the battery life of HP's similarly priced Compaq 2230s. It's the only one in this category seriously worth considering, although with its Vista Business OS it's better suited to small business users than the average home. It had the best application performance and, apart from the Fujitsu netbook, the best battery life in our testing. With its Core 2 Duo T6400 processor, 2GB of memory and 250GB hard drive,

you've got all the right bits for a decent long-term performer. The 15.6in widescreen LCD with 1,366 x 768-pixel resolution can handle DVDs with ease. Apart from basic USB and Ethernet ports, there's no FireWire, HDMI or eSATA. Portability might be an issue, although 2.67kg isn't too bad.

PC User says:

The best of the four in this group, and well suited to small business use.



MSI VR630

PRICE \$1,099 / **CONTACT** MSI / **PHONE** (02) 9748 0070 / **WEB** www.msicomputer.com.au

The VR630 isn't bad. If you want something to play movies on, its 16in widescreen LCD with 16:9 aspect ratio is amazing value. With its 1,366 x 768-pixel resolution, widescreen DVD movies should fill the entire display. The VR630 is built around the new 1.9GHz AMD Athlon X2 QL-60 processor, which can't match the Core 2 Duo T6400 in the ASUS machine above. This was especially true with audio and video encoding, but it was noticeably slower on

other benchmarks, too. The upside is that it's \$400 cheaper. It includes FireWire along with its multiple USB ports, which is another plus. Couple that with a 160GB hard drive and a DVD burner, and you're getting quite a good deal.

PC User says:

Great screen and cheaper than the X58LE, but it has less zing.



Tech terms

Aspect ratio. The ratio of horizontal to vertical pixels on a computer's screen. Most notebooks are 16:10, but some new models are 16:9 to mimic big-screen TVs.

eSATA (External Serial Advanced Technology Attachment). A new high-speed interface for external

storage devices starting to see inclusion in notebooks.

FireWire. A serial data connection used for MiniDV cameras and some external storage devices, but beginning to lose support from notebook makers.

HDMI (High-Definition Multimedia Interface).

A digital audio and video connection, allowing the notebook to be used on a big-screen LCD or plasma TV with HDMI support.

USB (Universal Serial Bus).

The most common peripheral interface for everything from flash drives to removable hard drives, cameras and so on.



FUJITSU M1010

PRICE \$699 / **CONTACT** FUJITSU / **PHONE** 1800 288 283 / **WEB** www.fujitsu.com/au

Fujitsu decided it wanted to run its M1010 netbook in this category and while it's not really up to competing with the others here, it did give us a chance to see Fujitsu's entry into the ever-crowding netbook market. Essentially, the M1010 is a standard netbook with a 1.6GHz Intel Atom N270 processor, 1GB of memory and XP Home.

However, the smallish 60GB hard drive, the 8.9in widescreen LCD and four-cell battery are now considered previous-generation netbook fare. So, even for its relatively light \$699 price tag, there's not a huge amount of value here. The one thing that did impress was the battery life of 2 hours 33 minutes — that's a very decent effort from a four-

cell battery. On the whole, however, if you've got \$1,500 to spend on a notebook, there are far better (and much faster) alternatives.

PC User says: *It's cheap, but the M1010 is a poor choice if you have \$1,500 to spend.*

70%

HP COMPAQ 2230S

PRICE \$1,399 / **CONTACT** HP / **PHONE** 13 23 47 / **WEB** www.hp.com.au

The Compaq 2230s we received was the same unit we looked at in our March issue, which meant we had the same issue with testing: our UserBench Encode test wouldn't run. While the unit has some good features, including its slim 12.1in widescreen LCD chassis and low 1.75kg weight, the inclusion of just 1GB of memory isn't good. Even with the XP Pro operating system our test unit

included, 1GB of memory is only just passable. The small-capacity 37Wh Lithium Ion (Lilon) battery gave just over 1 hour battery life, which is also a poor showing. Strangely, HP has included an HDMI output here — the only one in the group. Still, in terms of performance on our UserBench benchmarks (the ones we could use), it turned in speeds slightly slower than the X58LE, which

makes sense given the 1.8GHz Core 2 Duo T5670 processor. With its small battery and too little memory, there are compromises to be made in buying this one.

PC User says:

Too little battery life and system memory at this price.

65%

NOTEBOOKS UNDER \$2,000

ASUS F6A

PRICE \$1,599 / **CONTACT** ASUS / **PHONE** 1800 278 788 / **WEB** www.asus.com.au

The F6A did well in this group for a couple of reasons, not the least of which was price. When you add in the fact that it topped our battery and audio/video encoding tests, it's a fair effort. It also has good peripheral options including HDMI and eSATA. Improving things further is the combination of weight and battery life — it's just over 2kg

(the lightest in this group), with a decent six-cell battery that lasted 2 hours 49 minutes. With its Intel 4-Series chipset, you've got no 3D gaming speed to speak of, and that's a drawback compared to the ASUS M51Tr and MSI GX630. Given the inclusion of Vista Business, the F6A is better suited to small business users. The X58LE produced better overall

application speeds, despite having the same processor as this unit. So, depending on your needs, the X58LE or the GX630 may be better options.

PC User says:

Good speed and battery life, but not the best option for home users.

80%

MSI GX630

PRICE \$1,599 / **CONTACT** MSI / **PHONE** (02) 9748 0070 / **WEB** www.msicomputer.com.au

The GX630 is a pretty fair laptop in terms of features and value, particularly with its peripheral extras. Add in FireWire, HDMI output and eSATA and you've got a versatile unit. Equal cheapest in the group, the GX630 still had the best 3D gaming speed, thanks to the Nvidia GeForce 9600M GT graphics chip. The AMD Turion

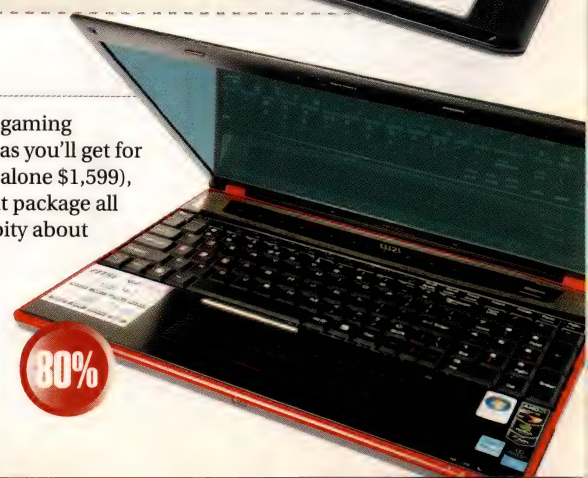
X2 Ultra ZM-80 processor couldn't quite catch the Core 2 Duo offered in other units, but it was the fastest of the three AMD-based notebooks we saw. Sadly, it also delivered the worst battery life of the group at 1 hour 35 minutes. However, with a huge 320GB hard drive and built-in optical burner, lots of peripheral

port options and gaming graphics as good as you'll get for under \$2,000 (let alone \$1,599), it's a pretty decent package all round. It's just a pity about the battery life.

PC User says:

If you want gaming, this is the best option.

80%



TEST BENCH > Best-value PCs

HARDWARE / SOFTWARE / COMPONENTS

ASUS M51TR

PRICE \$1,599 / **CONTACT** ASUS / **PHONE** 1800 278 788 / **WEB** www.asus.com.au

The M51Tr features an Athlon X2 QL-62 processor, which the retail MSI VR630 should also ship with. ASUS's machine is therefore slightly faster, though the battery life of the two was only a minute apart. In addition to the CPU, the M51Tr shares plenty of features with the GX630: storage, OK

gaming performance and below-average battery life. Given the six-cell battery, 1 hour 37 minutes is not good. This one is loaded with peripheral port options including HDMI, FireWire and eSATA. You also get the best screen resolution of the roundup, with the 15.4in widescreen LCD delivering 1,440

x 900 pixels. The weight though, at 2.97kg, is the heaviest of the lot.

PC User says:
OK for features, but battery life needs work.

75%

FUJITSU L1010

PRICE \$1,849 / **CONTACT** FUJITSU / **PHONE** 1800 288 283 / **WEB** www.fujitsu.com/au

The L1010 isn't a bad notebook, although it's a tad underdone and overpriced in this company. You only get a 160GB hard drive — the capacity you find in most \$700 models. Compared to the 320GB in two of the others in this group, it's a bit hard to swallow. While the L1010 lacks eSATA, it

has an HDMI output, so connecting it to a large telly is still a possibility. Intel's 4-series chipset means there's no real gaming speed to speak of to drive the 15.4in widescreen LCD, and the battery life at 2 hours 10 minutes is also a bit low, particularly given the extra

capacity the 5,200mAh Lilon battery offers.

PC User says:
Not a bad unit, but not really enough storage for the price.

70%

BEST-VALUE NOTEBOOKS: HOW THEY COMPARE

| | Notebooks under \$1,500 | | | | Notebooks under \$2,000 | | | |
|--|--------------------------------|-------------------------------|-----------------------------|--|--|---------------------------------------|---------------------------------------|----------------------------------|
| Model | ASUS X58LE | HP Compaq 2230s | Fujitsu M1010 | MSI VR630 | ASUS F6A | ASUS M51Tr | Fujitsu L1010 | MSI GX630 |
| Price | \$1,499 | \$1,399 | \$699 | \$1,099 | \$1,599 | \$1,599 | \$1,849 | \$1,599 |
| SPECIFICATIONS | | | | | | | | |
| Processor | 2GHz Intel Core 2 Duo T6400 | 1.8GHz Intel Core 2 Duo T5670 | 1.6GHz Intel Atom N270 | 1.9GHz AMD Athlon X2 QL-60 | 2GHz Intel Core 2 Duo T6400 | 2GHz AMD Athlon X2 QL-62 | 2.16GHz Intel Pentium Dual-Core T3400 | 2.1GHz AMD Turion X2 Ultra ZM-80 |
| Memory | 2GB DDR2 RAM | 1GB DDR2 | 1GB DDR2 | 2GB DDR2 (256MB shared) | 1GB DDR2 (32MB shared) | 3GB DDR2 RAM | 1GB DDR2 RAM | 2GB DDR2 RAM |
| Graphics chip | Intel 965 Express | Intel Mobile 4-series Express | Intel 945 Express | Nvidia GeForce 9100M G | Intel 4 Series Express | ATI Mobility Radeon HD 3470 Hybrid X2 | Intel 4 Series Express | Nvidia GeForce 9600M GT |
| Hard drive | 250GB Seagate ST9250320AS SATA | 160GB Hitachi HTS543216L | 60GB Toshiba MK6028GAL SATA | 160GB Western Digital WD1600 BEVT SATA | 250GB Western Digital WD2500 BEVS SATA | 320GB Seagate ST9320320AS SATA | 160GB Fujitsu MH22160BH SATA | 320GB Fujitsu MH22320BH SATA |
| Optical drive | Samsung TS-L632H DVD burner | Optiarc AD-7561S DVD burner | None | Optiarc AD-7560S DVD burner | Samsung TS-L633A DVD burner | Matsushita UJ870BJ DVD burner | Matsushita UJ870BJ DVD burner | Optiarc AD-7560S DVD burner |
| LCD screen | 15.6in widescreen LCD | 12.1in widescreen TFT | 8.9in widescreen LCD | 16in widescreen LCD | 13.3in widescreen LCD | 15.4in widescreen LCD | 15.4in widescreen LCD | 15.4in widescreen LCD |
| • Screen resolution (pixels) | 1,366 x 768 | 1,280 x 800 | 1,024 x 600 | 1,366 x 768 | 1,280 x 800 | 1,440 x 900 | 1,280 x 800 | 1,280 x 800 |
| Operating system | Windows Vista Business SP1 | Windows XP Professional SP2 | Windows XP Home Edition SP3 | Windows Vista Home Premium | Windows Vista Business SP1 | Windows Vista Home Premium SP1 | Windows Vista Home Premium SP1 | Windows Vista Home Premium SP1 |
| HDMI/eSATA | No/No | Yes/No | No/No | No/No | Yes/Yes | Yes/Yes | Yes/No | Yes/Yes |
| USB/FireWire | Yes/No | Yes/No | Yes/No | Yes/Yes | Yes/No | Yes/Yes | Yes/Yes | Yes/Yes |
| Battery type/capacity | 11.1V/4,400mAh Lilon | 14.4V/37Wh Lilon | 14.4V/2,200mAh Lilon | 10.8V/4,800mAh Lilon | 11.1V/4,800mAh Lilon | 11.1V/4,800mAh Lilon | 10.8V/5,200mAh Lilon | 10.8V/5,200mAh Lilon |
| Weight (kg) | 2.67 | 1.75 | 1.12 | 2.45 | 2.14 | 2.97 | 2.57 | 2.78 |
| TEST RESULTS | | | | | | | | |
| UserBench Encode 2009 score | 28.32 | DNF | 8.14 | 19.4 | 25.39 | 20.04 | 25.81 | 22.42 |
| • Audio Component score | 20.25 | DNF | 5.69 | 14.23 | 17.19 | 14.28 | 18.29 | 16.74 |
| • Audio scores (min:sec/MB/s) | 2:20/4.62 | DNF | 8:20/1.30 | 3:20/3.25 | 2:45/3.93 | 3:19/3.26 | 2:35/4.18 | 2:50/3.82 |
| • Video component score | 39.32 | DNF | 11.67 | 26.04 | 38.16 | 27.96 | 36.27 | 29.43 |
| • Video scores (min:sec/1fps) | 1:43/72.64 | DNF | 5:47/21.57 | 2:35/48.11 | 1:46/70.49 | 2:25/51.66 | 1:51/67.00 | 2:17/54.37 |
| UserBench Image 2006 | 3:31 | 3:42 | 8:41 | 4:44 | DNF | 4:31 | 5:14 | 4:12 |
| UserBench Security VR 2007 | 4:46 | 3:47 | 9:24 | 5:30 | 6:47 | 5:49 | 4:54 | 5:02 |
| UserBench HL2:LC 2008 (640 x 480 pixels) | 20.4 | DNF | DNB | 16.7 | 11.5 | 45.2 | 16 | 65.8 |
| UserBench Battery 2008 | 2:01 | 1:05 | 2:33 | 1:38 | 2:49 | 1:37 | 2:10 | 1:35 |

DNF = did not finish this test. DNB = did not benchmark.

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AMD's new Radeon HD 4890

Darren Yates tests the latest upgrade hardware, including ATI's new mid-range Radeon HD 4890 graphics card and two budget X58 motherboards.

ATI's new Radeon HD 4890 is now appearing on store shelves, but don't expect an entirely new graphics chip on this one. The HD 4890 features the same core that was used in the HD 4850 and HD 4870 — the key difference is the clock speed. The new Radeon HD 4890 clocks the core at 850MHz, compared to the HD 4850's 625MHz and the HD 4870's 750MHz. Essentially, if you could overclock your HD 4870 up to 850MHz, you'd have an HD 4890.

There are some other minor changes between the HD 4870 and HD 4890, but in terms of core features, both have 800 stream processors and 1GB of GDDR5 memory (the HD 4850 typically features 512MB of slower GDDR3 RAM). Although we've only seen the ASUS EAH4890 so far, we think it's built on the ATI reference board, and like the HD 4870, it requires two six-pin PCI Express (PCI-E) power adapters to get up and running. As for power consumption, while we didn't make precise measurements, we had no trouble running this card and an Intel Core i7 920 processor overclocked to 3.6GHz using a 550W power supply unit.

While we're still waiting to see just what Nvidia's GeForce GTX 275 brings, the HD 4890 leaves the GTS 250 behind and outperforms the GTX 260. Currently, you'd have to have at least a GeForce GTX 280 to get back out in front. With the cheapest HD 4890 cards selling for around \$400, you're looking at around the same price for a GTX 275.

ASUS EAH4890/HTDI/1GD5/A

PRICE \$490 / CONTACT ASUS

PHONE 1300 278 788 / WEB www.asus.com.au

The ASUS EAH4890 should be a good guide as to what to expect from this higher-clocked version of the ATI RV770 Pro GPU and its 1GB of GDDR5 memory. You've got two DVI outputs, which can be linked to support 30in LCD monitors, with their 2,560 x 1,600-pixel resolution. The card is also HDCP-ready and can be converted to HDMI output for Blu-ray playback on your big-screen TV. In terms of speed, ATI has done well to crank up the performance as far as it has. Compared with the EAH4850 and its Radeon HD 4850 GPU, the improvement is better than 35%, particularly at 1,920 x 1,200 pixels. Interestingly, at lower resolutions (notably 1,024 x 768

pixels), there's almost nothing in it between the HD 4850 and HD 4890, even when using a fast 3.16GHz Core 2 Duo E8500 CPU, as we did in our test PC. However, you need to pick your games carefully, as the performance gap between the HD 4850 and HD 4890 is far less on *Unreal Tournament 3*, and arguably not

worth the extra cost. The problem for ASUS is the price for this one — cheaper HD 4890s should deliver virtually the same speed for around \$400.

PC User says: Has potential, but the price is a bit high.



GRAPHICS CARDS: HOW THEY PERFORM

| Graphics card tested | ASUS EAH4850 MT/HTDI/512M/A | ASUS EAH4890/HTDI/1GD5/A | Gigabyte GV-96TSL-1GI | MSI N250GTS-2D1G |
|-------------------------------|-----------------------------|--------------------------|------------------------|------------------------|
| Online price | \$240 | \$490 | \$245 | \$280 |
| GPU | ATI Radeon HD 4850 | ATI Radeon HD 4890 | Nvidia GeForce 9600 GT | Nvidia GeForce GTS 250 |
| Core/memory clock (MHz) | 625/993 | 850/975 | 650/1,800 | 738/1,100 |
| Memory | 512MB GDDR3 | 1GB GDDR5 | 1GB GDDR3 | 512MB GDDR3 |
| Stream processors | 800 | 800 | 64 | 128 |
| Driver software version | Catalyst 9.3 | Catalyst 9.3 | 182.50 | 182.50 |
| Power connectors | 1 x 6-pin | 2 x 6-pin | 1 x 6-pin | 1 x 6-pin |
| TEST RESULTS | | | | |
| UserBench Crysis 2008 | | | | |
| - 1,024 x 768 (average fps) | 55.65 | 58.13 | 46.43 | 58.64 |
| - 1,440 x 900 (average fps) | 40.72 | 52.14 | 32.13 | 42.94 |
| - 1,680 x 1,050 (average fps) | 32.38 | 45.28 | 25.34 | 37.46 |
| - 1,920 x 1,200 (average fps) | 27.27 | 37.61 | 20.43 | 30.39 |
| UserBench UT3Demo 2008 | | | | |
| - 1,024 x 768 (average fps) | 127.59 | 133.37 | 162.42 | 160.33 |
| - 1,440 x 900 (average fps) | 125.64 | 127.85 | 131.96 | 159.35 |
| - 1,680 x 1,050 (average fps) | 116.46 | 126.52 | 105.39 | 148.16 |
| - 1,920 x 1,200 (average fps) | 100.41 | 122.24 | 84.12 | 119.76 |

Note: All cards tested on ASUS P5QL Pro motherboard with 2GB of DDR2-1066 RAM, 3.16GHz Intel Core 2 Duo E8600 processor, 500GB Samsung HD501LJ hard drive and Windows Vista Ultimate SP1 operating system.



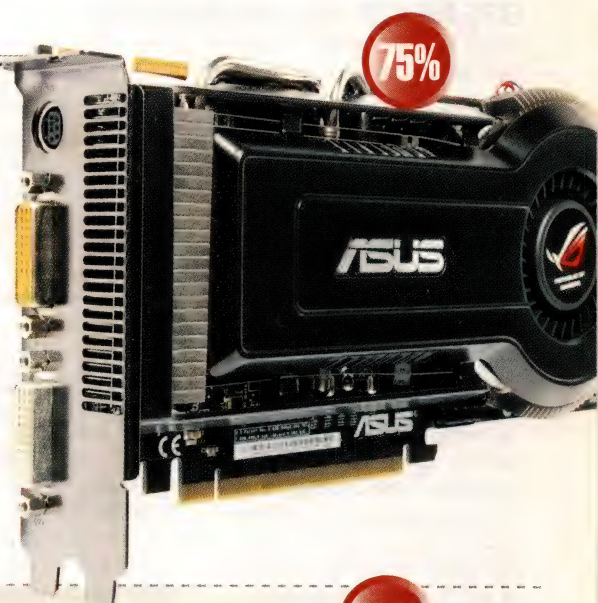
ASUS EAH4850 MT/HTDI/512M/A

PRICE \$240 / CONTACT ASUS / PHONE 1300 278 788 / WEB www.asus.com.au

The ATI Radeon HD 4850 competes in the same market area as MSI's GeForce GTS 250 below; however, there's a price difference depending on whether you choose a bigger-name brand. The EAH4850 sells online for around \$240, which is about \$25 more than, say, a Sapphire version of this card; so while there is a bit of a markup, it's not a hugely dramatic one. And while the more expensive N250GTS-2D1G below does give this EAH4850 a bit of a wallop for game speed, both cards are still best suited to screen resolutions of 1,680 x

1,050 pixels or less. At that level, the EAH4850 can still push *Crysis* to a playable 30fps. In the end, which one you pick will depend on the price you can get it for — if you can get the GeForce GTS 250 for around \$220, it's definitely the better option, with better all-round frame speed. On the other hand, if you're game and don't mind voiding your warranty, overclocking the HD 4850 has become a sport on its own, and can net some very decent performance gains. You can find an HD 4850 overclocking tutorial at Tom's Hardware

(<http://tinyurl.com/d7tyrc>) — just beware that it's potentially dangerous to your card's health, so you overclock at your own risk. **PC User says:** Potentially overclockable, but a budget GTS 250 would be better value.



MSI N250GTS-2D1G

PRICE \$280 / CONTACT MSI / PHONE [02] 9748 0070 / WEB www.msicomputer.com.au

The GeForce GTS 250 is quickly pushing the GeForce 9800 GTX+ off shelves, which isn't surprising given that it's almost the same GPU. The one thing that's different, though, is pricing: the cheaper GTS 250s are selling for as little as \$220 online, which is a bit less than the last selling price for a cheap 9800 GTX+. That makes this MSI version, selling for around \$300, quite a bit more expensive and without really offering anything in terms of extra speed. Certainly, compared

with Gigabyte's \$245 fanless 9600 GT, the N250GTS-2D1G isn't too bad. In terms of raw performance it's a notch or two in front of the ASUS EAH4850 across all our benchmarks. The fact that it can (just) maintain around 30fps on *Crysis* at 1,920 x 1,200 pixels suggests you could game with it at this setting, but it would be better suited for use with a 22in (1,680 x 1,050-pixel) LCD. The card requires a single six-pin PCI-E power connector and a double-slot space in your system, as do the bulk of GTS 250

cards. For around \$220, the GeForce GTS 250 delivers quite reasonable performance. But at \$280, this MSI version doesn't do quite enough. **PC User says:** A reasonable performer, but needs to be about \$50 cheaper to compete.



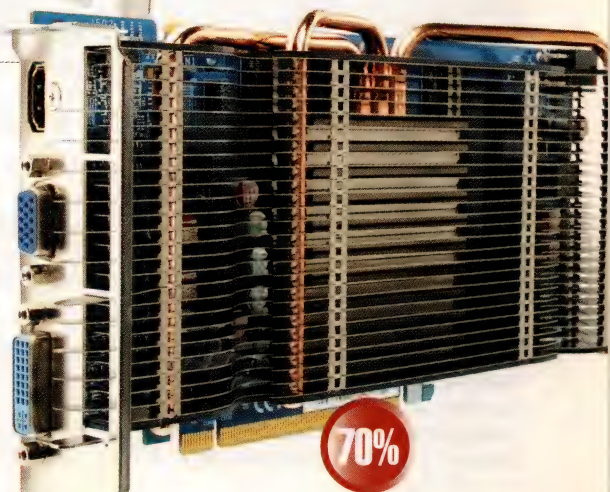
GIGABYTE GV-N96TSL-1GI

PRICE \$245 / CONTACT GIGABYTE / PHONE [03] 8561 6288 / WEB www.gigabyte.com.au

Silent cards are a bit of a double-edged sword — on the one hand, you get gaming speed without any fan noise, making them suitable for use in media centre PCs, where you want to minimise any PC sound. On the other hand, fanless graphics cards have difficulty dissipating heat, so it's something you need to be aware of and account for when building your system. The last fanless 9600 GT card we saw was the Leadtek PX9600 GT and on the basis of it, Gigabyte has got a bit of a

lead with this one. You still need a single PCI-E power connector to get this one moving, but its gaming speed is often a few frames faster than the Leadtek. That said, the average frame rate on *Crysis* drops below 30fps once you reach 1,680 x 1,050 pixels, so you'd have to stick to 1,440 x 900 pixels or less for decent play. The same speed gains were also noticeable on *Unreal Tournament 3*. The major problem here is price. While we're not fanatics for the GeForce GTS 250, you can pick up an

inexpensive Palit version for around \$220, which offers as much as 50% better frame rates than what you see here. **PC User says:** If you need a silent graphics card, this is about as fast as you'll get.



TEST BENCH > Upgrade report

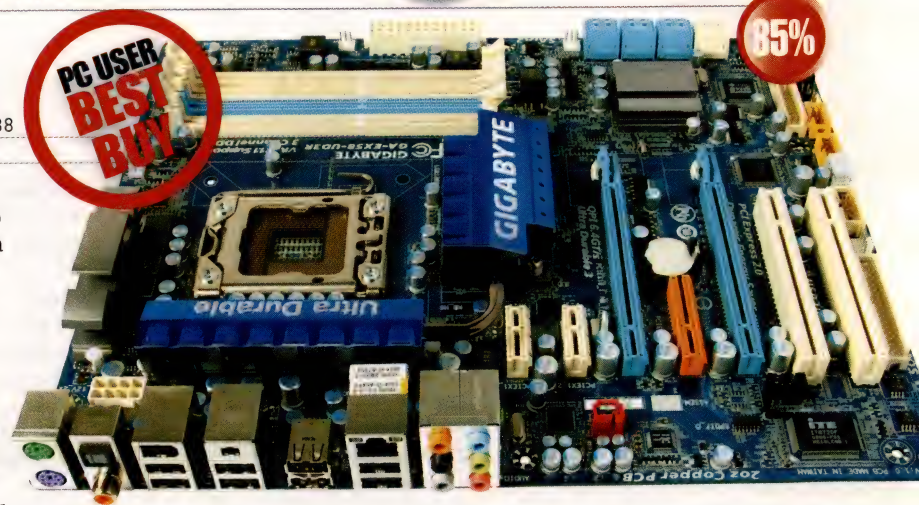
HARDWARE / SOFTWARE / COMPONENTS

GIGABYTE GA-EX58-UD3R

PRICE \$350 / **CONTACT** GIGABYTE / **PHONE** (03) 8561 6288
WEB www.gigabyte.com.au

Intel's Core i7 processor delivers fairly impressive performance; unfortunately, it also demands a fairly impressive price. Besides the high cost of the CPUs, there are no X58 Express motherboards available for under \$300. This GA-EX58-UD3R is about the cheapest X58 board we've seen so far, and offers one very big bonus for gaming freaks: it supports both CrossFire and SLI setups, something the MSI X58 Pro can't do. It's part of Gigabyte's Ultra Durable range, which means solid capacitors and two-ounce copper tracks for higher reliability. In terms of speed, we had no trouble cranking up the clock speed of

our 2.66GHz Core i7 920 test processor to 3.6GHz, which saw a significant boost to overall audio/video encoding speed. It's a good board for storage with eight SATA II ports, including six on Intel's southbridge ICH10R chip, with support for RAID 0, 1, 5 or 10, and the other two providing RAID 0/1 via a separate Gigabyte controller. Add to that up to three FireWire ports, 12 USB 2.0 ports, S/PDIF digital audio in and out ports, and you've got a seriously useful



board, regardless of the application. Given all the extra features on this one, you could easily ask why you'd need any other X58 motherboard. Although the whole Core i7 platform is

quite pricey, you won't find a better board at this price.

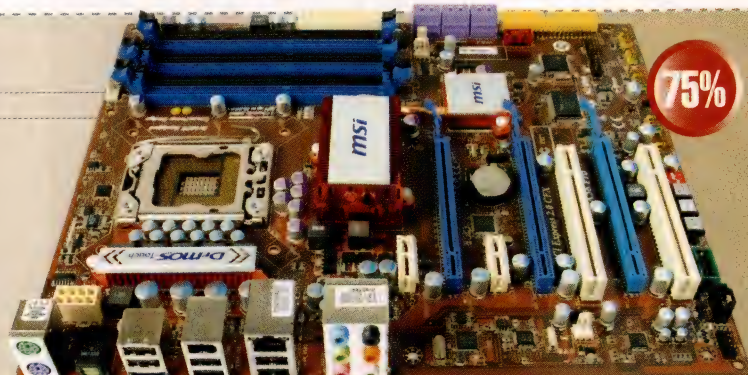
PC User says: Supports both CrossFire and SLI, is highly overclockable and loaded with features — this board does it all for as cheap as you'll find.

MSI X58 PRO

PRICE \$359 / **CONTACT** MSI / **PHONE** (02) 9748 0070
WEB www.msicomputer.com.au

The X58 Pro comes at a similar price to the Gigabyte board, yet it doesn't quite deliver the same level of features or performance. You get CrossFire support, but no SLI. There are also six SATA ports against the Gigabyte's eight. The MSI has six DDR3 memory slots for up to 24GB of total RAM; however, you'll need a 64-bit version of XP or Vista to really see the benefit beyond a standard 3GB load. It's overclockable and

although its performance scores were lower than the Gigabyte, we still managed to lift the Core i7 920 from 2.66GHz to 3.6GHz without too much fuss. Interestingly, this board just managed to squeeze a little bit more frame speed from our ASUS EAH4890 graphics card on *Crysis* at 1,920 x 1,200 pixels. With Intel's ICH10R southbridge chip, you get the same Intel RAID options as with the Gigabyte



board. The lack of SLI, the slower performance and reduced features just hold it back a bit.

PC User says: CrossFire only, slower speed and less features than the Gigabyte.

MOTHERBOARDS: HOW THEY PERFORM

| MODEL | Gigabyte GA-EX58-UD3R | | MSI X58 Pro | |
|---|---------------------------|-------------|---------------------------|-------------|
| Online price | \$350 | | \$359 | |
| TESTING SPECIFICATION | | | | |
| Processor | 2.66GHz Intel Core i7 920 | | 2.66GHz Intel Core i7 920 | |
| Clock speed | 2.66GHz | 3.6GHz | 2.66GHz | 3.6GHz |
| Multiplier | 20 | 20 | 20 | 20 |
| Frontside bus | 133MHz | 180MHz | 133MHz | 180MHz |
| Memory | 2GB DDR3-1333 | | 2GB DDR3-1333 | |
| Graphics card | ASUS EAH4890 | | ASUS EAH4890 | |
| RESULTS | | | | |
| UserBench Encode 2009 | 49.95 | 65.86 | 46.98 | 63.79 |
| – Audio time/speed (minutes:seconds/MB/s) | 1:36/6.74 | 1:13/8.88 | 1:42/6.33 | 1:15/8.58 |
| – Video time/speed (minutes:seconds/fps) | 0:41/179.85 | 0:31/237.49 | 0:44/169.66 | 0:32/231.38 |
| UserBench Image 2006 (minutes:seconds) | 2:42 | DNB | 2:47 | DNB |
| UserBench Security VR 2007 (minutes:seconds) | 2:48 | DNB | 2:58 | DNB |
| UserBench Crysis 2008 (1,024 x 768/1,440 x 900) | 61.46/54.14 | DNB | 58.47/53.33 | DNB |
| UserBench Crysis 2008 (1,680 x 1,050/1,920 x 1,080) | 45.64/38.07 | CNB | 45.81/38.16 | DNB |

DNB = Did not benchmark.

Tech terms

CrossFire/SLI. Respectively, ATI and Nvidia's multi-card and multi-GPU technology, which allows you to use two or more graphics cards in tandem to give increased gaming performance.

RAID (Redundant Array of Independent Disks). A way of connecting multiple hard drives together to achieve better speed (RAID 0), mirroring (RAID 1), efficient data protection (RAID 5) or a combination of levels 0 and 1 (RAID 10).

ASUS M4 Series Motherboards

Unleash Ultimate PC Potentials with ASUS 8-Phase Power Design



In the ever-changing world of technology, you never want to be left behind in the dust. The ASUS M4 Series motherboards are built for that very purpose to deliver extreme performance that puts you light years ahead. Supporting AMD®'s next generation AM3 processors and displaying ingenious features like the revolutionary 8-phase power design, Turbo Key and TurboV, the M4 Series is ready to take on the future with absolute confidence.

Shift into Overdrive with Turbo Key and TurboV

Feel the adrenaline rush of real-time O.C. - now a reality with the ASUS TurboV. This easy O.C. tool allows you to overclock without exiting or rebooting the OS; and its user friendly interface makes overclocking just a few clicks away. Furthermore, users can save their preferred OC profiles and easily apply the best O.C. settings for different scenarios. The ASUS Turbo Key, allows the user to transform the PC power button into a physical overclocking button. After the easy setup, Turbo Key is able to boost performances without interrupting ongoing work or games - with just a touch.



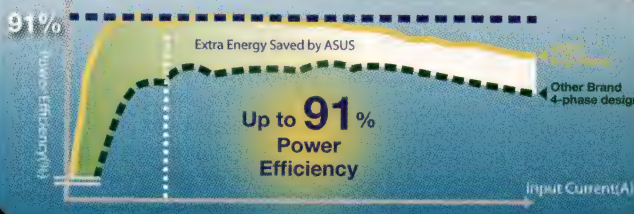
Harness Extreme Potentials New 8-Phase Power Design



To fully unleash the next-generation AM3 CPU's potential, the ASUS M4 Series have adopted a brand new 8-phase VRM power design that delivers high power efficiency and superlative overclocking capabilities.

Furthermore, high quality power components effectively lower system temperatures to ensure longer component lifespan. This top-notch motherboard series also features an extra 1 or 2 phase power for the integrated memory and HT controller to provide independent power to vital components for added operating stability.

Better power efficiency



The colour of money

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PRINTERS
TESTED

Darren Yates tests 11 of the latest multifunction centres and printers, and finds printing your own colour photos isn't always a budget exercise.

Since our last big roundup, the main area multifunction centres (MFCs) and printers have shown improvement in its features, rather than providing any real gains in print quality. Basically, print quality is about as good as it's going to get — there just aren't any more improvements to be had. However, one area where all models need work is in running costs. In fact, in many cases it'll be cheaper to have Harvey Norman or Big W print your photos than to do them yourself at home. The other issue is the considerable number of models still using tri-colour cartridges. These aren't great value because as soon as one colour runs out the whole cartridge must be replaced, even if there's ink of other colours remaining. But overall, despite some testing challenges, there's still good value to be found in some of the models we've reviewed.

Printer economy

We calculated each machine's running costs by testing how many A4 photo prints each could produce before the ink tanks ran out. For tri-colour models, we divided the cost of the tri-colour cartridge by the number of pages; for individual tank-based units, we added up the number of cartridges, subtracted two, then divided the cost of the remaining tanks by the number of pages. We believe this takes into account the extra cost of individual tanks, as well as the ability to use all the ink in these tanks, as opposed to tri-colour tanks. The 6 x 4in per-page print cost is simply the A4 page cost divided by four.

_MFCs AND INKJET PRINTERS UNDER \$100

CANON PIXMA MP480

PRICE \$90 / CONTACT CANON / PHONE 1800 021 167 / WEB www.canon.com.au

In the end, we couldn't give a Best Buy award to any of models in this group. On the surface, this MP480 appears to be great value, providing a flatbed scanner and four-colour inkjet printer for just \$90. However, there are some drawbacks here. The most important is the tri-colour ink cartridge. It's comparatively expensive to run, giving us just 19 A4 photo prints before the tri-colour tank had had enough. The MP480 delivers faster speeds and slightly better print quality than the Epson Stylus TX200 below, but at nearly 50% greater cost. The print quality on glossy photo paper was pretty close between the two, although



plain paper text and photo prints were just slightly better on this one. Driver support covers everything from Windows 2000 onwards, and includes Mac OS X

drivers, though there's sadly nothing for Linux.

PC User says: *Faster and better prints than the Epson, but costs a lot more to run.*

EPSON STYLUS TX200

PRICE \$85 / CONTACT EPSON / PHONE (02) 8899 3666

WEB www.epson.com.au

The Stylus TX200 sells for almost the same price as the MP480 above, but is considerably cheaper to run, thanks to its use of individual ink tanks, which ensure you get to use all the ink you pay for. Interestingly, the cost of a complete set of tanks here isn't too much less than the unit itself. Epson's text print quality continues to be slightly less than that of Canon and HP, and we thought the Canon plain paper test photo print was just a little better. On the other hand, they're hard to separate on glossy paper, but the TX200 fell behind the MP480 in speed, which took half the

time to do this particular task. One thing to remember here is that the print head is built into the TX200, so if it gets clogged, you'll either need to expend a decent amount of ink to clean it or send it back to Epson for repair, neither of which is a really great option in our view. The MP480 may use costly cartridges, but one benefit is



that if you replace the cartridge, you get a new print head.

PC User says: *Costs less, but is slower and the print quality isn't quite as good as the MP480.*

HP DESKJET D4360

PRICE \$80 / **CONTACT** HP / **PHONE** 13 23 47 / **WEB** www.hp.com.au

The Deskjet D4360 was the single printer-only unit we saw this roundup, and it was potentially a very good little unit. However, despite its low purchase price, the cost of replacement cartridges is almost as much as the printer itself. The low yield of just 15 A4 photo prints means that even 6 x 4in photo prints are 50c each, just for the ink. The

use of a tri-colour ink cartridge is one reason for this high cost (meaning as soon as one ink colour runs out, the cartridge has to be replaced). However, the real problem we found was that when printing text, the pages come through before the ink on the previous one has dried and as the new page drags over the previous one, the ink on that previous page is smeared,

ruining the print quality. Given this, it's hard to recommend.

PC User says:
Expensive per page and ink drying issues makes this one hard to recommend.



60%

_MFCS UNDER \$200

LEXMARK X5650

PRICE \$160 / **CONTACT** LEXMARK / **PHONE** 1300 362 192
WEB www.lexmark.com.au

We've given Lexmark a bit of stick over the years for some of the models it has sent us for review; however, the X5650 is pretty hard to beat for the price. It was the only model in the group to feature Wi-Fi networking, ADF and fax machine functionality. It had the second-longest endurance of the group, printing 40 of our A4 test photos before the tri-colour cartridge gave up. The print quality was generally good too, although the Canon MP540 delivered better and faster glossy photo prints. The text quality was good rather than brilliant. While the X5650

does a reasonable job on mono text print speed, it was easily the slowest on glossy photo printing, so that may be a drawback for some. Lexmark offers two versions of ink tanks for this model: standard and XL (extra large). In our calculations, the cost per page is the cheapest of the tri-colour ink tank models in this category (this and the two HP units), although the Epson and Canon units will be cheaper to run over the longer term. The automatic print head alignment makes it easy to set up, too.



PC User says: This one is loaded with features and isn't too expensive to run.

85%

PC USER
BEST
BUY

CANON PIXMA MP540

PRICE \$160 / **CONTACT** CANON / **PHONE** 1800 021 167 / **WEB** www.canon.com.au

The MP540 was arguably the best in this little group in terms of print quality; however, it's a five-colour printer, so a complete set of replacement tanks will cost you about \$110. That said, we managed a healthy 48 A4 test photo prints before the cyan tank needed replacing, so your running costs should be comparatively good in the long term. It needs the print head alignment to be done manually

(you need to judge a bunch of printouts and select the number that corresponds to the option you think is best), but the basic engine specifications of 9,600 x 2,400dpi printing and 2,400 x 4,800dpi scanning ensure this will give you about as good as it gets for quality at this price. Print speeds are in keeping with the better models in this group, and the text and glossy photo prints were about as good as we saw in

this roundup. The lack of networking options might be a drawback for some users, but if you want or need top-drawer print quality for under \$200, this is arguably the one to get.
PC User says: High-quality print



80%

and scanning engine, along with decent costs, but no exotic extras in this one.

Buyer's checklist

Here are some things to look out for when you're choosing a multifunction printer.

- * **Individual ink tanks.** This is the only way to ensure you get to use every drop of ink you pay for.
- * **Print resolution.** The higher the print resolution, the better the print quality should be (at least in theory).
- * **Print noise.** Not all printers are

- quiet, so if you can, try to hear one printing before you buy it.
- * **Automatic document feeder (ADF).** If you scan lots of documents, an ADF really is a must.
- * **Duplex printing.** If you print lots of text documents, double-sided

- printing will help you save paper, but don't use it for photos.
- * **Flash card reader.** Most models can now print photos direct from your camera, but beware of the cost — it might be cheaper to print them at a photo shop instead.

EPSON STYLUS TX400

PRICE \$130 / **CONTACT** EPSON / **PHONE** (02) 8899 3666 / **WEB** www.epson.com.au

The TX400 turned in virtually the same performance as the TX200, with the same basic print engine, quality and speeds. In fact, the only real difference we could find is that this one has an LCD while the TX200 doesn't. Given that Epson is asking an extra \$45 for that screen, you could save your cash and get the TX200 instead for the same basic functionality.

Our plain paper photo test on this one produced noticeable banding, and it's one of the things that concern us about Epson printers. With the print head built in, clogged heads can only be cleaned either by using the cleaning routine, which uses up ink, or by sending the printer back to Epson. The individual ink tanks resulted in the lowest

cost per page in this group (it uses the same tanks as the TX200), although the TX400 was easily the slowest to print our 10-page text document. Along with the TX200, they were the two slowest units in the roundup.



PC User says: If running costs are important to you, it's worth considering, but it's slow.

HP OFFICEJET J4580

PRICE \$140 / **CONTACT** HP / **PHONE** 13 23 47 / **WEB** www.hp.com.au

HP's J4580 has basically the same printer and scanner engines as the Photosmart C4580, but they're supplied with different cartridges. Unfortunately, a lack of spare cartridges meant we couldn't test cartridge yield on this one; however, it's unlikely to be cheap to run, thanks to its use of a tri-colour ink cartridge.

While the J4580 doesn't include any networking options, you do get an ADF and fax functionality. It uses the same semi-auto print head alignment routine of the Photosmart C4580. We managed to get a single A4 photo print on plain paper, although with banding in the printouts, it wasn't as good as we expected.

The potential for good print quality did come through on plain paper text, which was up to HP's usually excellent standard.

PC User says: The cheapest all-in-one, with a built-in fax, but we suspect it's not cheap to run.



HP PHOTOSMART C4580

PRICE \$155 / **CONTACT** HP / **PHONE** 13 23 47 / **WEB** www.hp.com.au

Unfortunately, the HP test units we received for this feature weren't brand new and that resulted in some issues during testing. However, the biggest concern we had for this unit was more to do with the ink tanks, rather than the quality of the unit itself. We managed to get just 12 A4 photo prints from this one before the tri-

colour tank gave up. With a two-cartridge replacement cost of \$60, this was by far the most expensive printer to run in this roundup. The text print quality showed up the C4580's printing potential, but we had trouble getting decent photo prints on this one, with noticeable banding on our glossy photo print. The unit has a semi-automatic print

head alignment (you print a page, then scan it on the scanner) and includes Wi-Fi networking.

PC User says: Expensive to run and our test unit gave us trouble with colour printing.



_MFCs UNDER \$400

LEXMARK X7675

PRICE \$260 / **CONTACT** LEXMARK / **PHONE** 1300 362 192
WEB www.lexmark.com.au

Although you'll pay for this one, the X7675 is one of the most feature-rich MFCs you'll find. From an ADF to duplex printing, to Wi-Fi networking and automatic print head alignment, Lexmark has definitely put thought into this one. Given that it uses a tri-colour cartridge, the fact that it managed 41 A4 test photo prints before carking it was impressive. On average, we think it would cost roughly the same to run as the Canon

MP980. But it's the list of extras this one has that did it for us — it's even got a fax machine onboard, so in terms of a small business all-in-one, we don't think you'll find another model under \$400 that delivers all this. The print quality was generally good, with its text printing and glossy photo prints quite decent. However, its glossy photo print speed isn't as good as the other two in this group, although it's considerably faster than Lexmark's own X5650. All in

all, the X7675 has just about every feature you could think of and it does it at a pretty decent price.

PC User says: With an ADF, duplex printing, fax and Wi-Fi

networking, there's not much the X7675 can't do.





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Tech terms

Auto/manual print head alignment. The print head in any printer needs to be aligned correctly for the best print quality. Better models do this automatically, while other units require you to make quality judgements based on test prints to get the best quality.

Automatic document feeder (ADF). This is a feature that enables multiple pages to be scanned automatically.

Duplex printing. This means the printer provides double-sided printing without you having to refeed the page back into the printer.

Ethernet. The name of the wired networking function.

PictBridge. A feature found in both MFCs and cameras, which allows the camera to print direct to the printer without the need for a PC.

Wi-Fi. In printers, this refers to built-in wireless networking, so you can print to the unit without using cables.

PRINTERS & MFCs: HOW THEY COMPARE

| | Printers under \$100 | MFCs under \$100 | MFCs under \$200 | |
|--|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Model | HP Deskjet D4360 | Canon PIXMA MP480 | Epson Stylus TX200 | Canon PIXMA MP540 |
| Print resolution (dpi) | 4,800 x 1,200 optimised | 4,800 x 2,400 | 5,760 | 9,600 x 2,400 |
| Print speed (mono/colour) in ppm | 30/23 | 20/16 | 34/34 | 26/17 |
| Number of colours/tanks | 4/2 | 4/2 | 4/4 | 5/5 |
| Scanner resolution (dpi) | N/A | 2,400 x 4,800 | 1,200 x 2,400 | 2,400 x 4,800 |
| Scanner depth – input (bits) | N/A | 48 | 48 | 48 |
| PERIPHERAL FEATURES | | | | |
| Dot matrix LCD screen | No | Yes | No | Yes |
| USB/Ethernet connectivity | Yes/No | Yes/No | Yes/No | Yes/No |
| Wi-Fi networking | No | No | No | No |
| Card Reader/PictBridge | No/No | Yes/Yes | Yes/Yes | Yes/Yes |
| Built-in fax | No | No | No | No |
| Automatic document feeder | No | No | No | No |
| Double-sided printing | No | No | No | No |
| Auto or manual print head alignment | Manual | Manual | Manual | Manual |
| Driver support | Windows 2000/XP/Vista, Mac OS X | Windows 2000/XP/Vista, Mac OS X | Windows 2000/XP/Vista, Mac OS X | Windows 2000/XP/Vista, Mac OS X |
| Dimensions (w x h x d) in mm | 445 x 170 x 216 | 444 x 154 x 331 | 450 x 182 x 342 | 450 x 157 x 366 |
| Weight (kg) | 3.4 | 5.7 | 5.8 | 7.8 |
| SPEED TEST RESULTS (minutes:seconds) | | | | |
| One-page Word document | 0:15.3 | 0:14.2 | 0:19.5 | 0:16.4 |
| 10-page Word document | 1:37.4 | 2:09.2 | 2:37.4 | 1:43.0 |
| A4 Photoshop image – plain paper | 0:57.4 | 0:57.3 | 0:30.5 | 1:26.7 |
| A4 Photoshop image – glossy photo paper | 2:16.4 | 1:52.2 | 3:30.1 | 3:12.6 |
| TEST RESULTS – QUALITY (out of 10) | | | | |
| Photo quality – glossy paper | 8.5 | 9 | 9 | 9 |
| Photo quality – plain paper | 8 | 8 | 7.5 | 7 |
| Text quality | 6* | 8.5 | 8 | 9 |
| TEST RESULTS – RUNDOWN | | | | |
| A4 Photoshop image on plain paper (pages) | 15 | 19 | 33 | 48 |
| Colour cost per A4 photo print (ink only) | \$2.13 | \$1.73 | \$1.09 | \$1.37 |
| Colour cost per 6 x 4in photo print (ink only) | \$0.53 | \$0.43 | \$0.27 | \$0.34 |
| INK COSTS | | | | |
| Cost per colour cartridge | \$32 | \$33 | \$18 | \$22 |
| Cost per mono cartridge | \$28 | \$27 | \$18 | \$22 |
| Total cartridge count | 2 | 2 | 4 | 5 |
| Total replacement cost | \$60 | \$60 | \$72 | \$110 |

* An ink drying issue affected this result. See main article for more information.

CANON PIXMA MP980

PRICE \$370 / **CONTACT** CANON / **PHONE** 1800 021 167 / **WEB** www.canon.com.au

The MP980 was the most expensive model we saw in this roundup and one of only two six-colour units we received. Two of the tanks are black and a third uses grey ink, so its configuration is a bit unusual. However, a complete set of tanks will cost you around \$130, so it's not that cheap either. That said, we did get 49 A4 test prints before the cyan cartridge

gave up the ghost, which was the best we saw from any unit in this roundup. In terms of features, this one does well, with Wi-Fi networking, along with double-sided printing. The print quality was a little disappointing, with banding noticeable in both plain and glossy photo prints, which may have been an issue with our review sample printer. Unfortunately, it lacks many

of the features found in the X7675, so while it might have the potential for great printing, it doesn't offer the same value for money.

PC User says:
Has a lot of potential, but it's expensive and lacks features found in the Lexmark X7675.



KODAK ESP 7 ALL-IN-ONE

PRICE \$299 / **CONTACT** KODAK / **PHONE** 1800 793 895 / **WEB** www.kodak.com.au

The ESP 7 was the only MFC we reviewed with a single, five-colour ink cartridge, but it also has an additional black cartridge for a total of six. Surprisingly however, it's not as bad in terms of running costs as you'd think. The five-colour tank sells for \$24.95 according to Kodak, and for that, we were able to get 37 A4 photo prints before it ran out.

That made this the cheapest to run in the feature. The print quality was passable, although not in the same class as a Canon or HP for text quality, and its colour glossy print quality also wasn't quite as good. Its print speeds were the slowest of the three in this category, taking over two minutes to print out our 10-page Word document. Unfortunately, this is about the

noisiest printer we've ever heard, and it makes a racket pulling the paper through while printing.

PC User says:
Good price and very cheap to run, but makes way too much noise when printing.

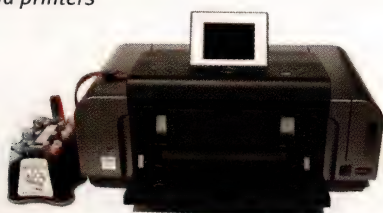


| Epson Stylus TX400 | HP Officejet J4580 | HP Photosmart C4580 | Lexmark X5650 | MFCs under \$400 | | |
|---------------------------------|---------------------------------|----------------------------|---------------------------------|---------------------------------|----------------------------|---------------------------------|
| 5,760 | 4,800 x 1,200 optimised | 4,800 x 1,200 optimised | 4,800 x 1,200 | Canon PIXMA MP980 | Kodak ESP 7 All-in-One | Lexmark X7675 |
| 34/34 | 28/22 | 30/23 | 25/18 | 9,600 x 2,400 | 9,600 optimised | 4,800 x 2,400 |
| 4/4 | 4/2 | 4/2 | 4/2 | 26/21 | 32/30 | 32/27 |
| 1,200 x 2,400 | 1,200 | 1,200 | 600 x 1,200 | 6/6 | 6/2 | 4/2 |
| 48 | 48 | 48 | 48 | 4,800 x 9,600 | 2,400 | 600 x 1,200 |
| | | | | 48 | 48 | 48 |
| Yes | No | Yes | No | Yes | Yes | Yes |
| Yes/No | Yes/No | Yes/No | Yes/No | Yes/Yes | Yes/Yes | Yes/Yes |
| No | No | Yes | Yes | Yes | Yes | Yes |
| Yes/Yes | Yes/No | Yes/Yes | Yes/Yes | Yes/Yes | Yes/Yes | Yes/Yes |
| No | Yes | No | Yes | No | No | Yes |
| No | Yes | No | Yes | No | No | Yes |
| No | No | No | No | Yes | Yes | Yes |
| Manual | Semi-auto | Semi-auto | Automatic | Automatic | Automatic | Automatic |
| Windows 2000/XP/Vista, Mac OS X | Windows 2000/XP/Vista, Mac OS X | Windows XP/Vista, Mac OS X | Windows 2000/XP/Vista, Mac OS X | Windows Vista/XP/2000, Mac OS X | Windows Vista/XP, Mac OS X | Windows Vista/XP/2000, Mac OS X |
| 450 x 182 x 342 | 434 x 217 x 402 | 434 x 162 x 290 | 465 x 205 x 295 | 470 x 199 x 385 | 446 x 188 x 432 | 477 x 207 x 358 |
| 5.9 | 5.9 | 5 | 7.5 | 10.7 | 8.5 | 8.5 |
| 0:19.3 | 0:22.6 | 0:17.4 | 0:12.5 | 0:10.1 | 0:22.8 | 0:13.9 |
| 2:37.7 | 1:45.5 | 1:39.9 | 1:23.9 | 1:24.9 | 2:05.1 | 1:26.9 |
| 0:31.7 | 0:58.0 | 1:02.1 | 1:44.3 | 1:15.3 | 0:48.9 | 1:05.4 |
| 3:23.7 | N/A | 2:34.2 | 5:14.3 | 1:27.2 | 2:01.8 | 2:51.6 |
| 9 | N/A | 7.5 | 8 | 7.5 | 8 | 8 |
| 6 | 6 | 7 | 8.5 | 7 | 7 | 7.5 |
| 8 | 9 | 8.5 | 7.5 | 9 | 8.5 | 8 |
| 35 | N/A | 12 | 40 | 49 | 37 | 41 |
| \$1.02 | N/A | \$2.66 | \$1.25 | \$1.34 | \$0.67 | \$1.20 |
| \$0.26 | N/A | \$0.67 | \$0.31 | \$0.34 | \$0.17 | \$0.30 |
| \$18 | \$28 | \$32 | \$50 | \$22 | \$25 | \$49 |
| \$18 | \$44 | \$28 | \$40 | \$22 | \$15 | \$43 |
| 4 | 2 | 2 | 2 | 6 | 2 | 2 |
| \$72 | \$72 | \$60 | \$90 | \$132 | \$40 | \$92 |

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Buying the right TV

Darren Yates explains the features, functions, options and jargon you need to know before buying your next big-screen TV.

Buying a big-screen TV is often a time of keen anticipation for families. If you're the person charged with finding the right model at the right price, however, it can often feel like a time of stress, headaches and general dread! With information coming at you from all angles, it can be hard to figure out what's important and what's not. It's worth noting that some of that information, such as a recent Melbourne newspaper story (see 'Obsolete already?' page 32), can be less than accurate. Walk into an electronics discount store and typically, there will literally be a wall of models to choose from, sometimes even two. Add all of that up and it's no wonder many consumers just get the look

of a stunned mullet when they walk into a store. Rather than being snowed under by an overwhelming range of tellies, there are a few tricks you can learn to ensure you steer clear of the bad models and head straight for the good ones.

_BASIC TECHNOLOGY

At the most basic level, there are three types of TV technology: the old CRT (cathode ray tube), which is just about on the way out; plasma, which itself is currently struggling to survive; and the technology that's beating them all (in sales at any rate), LCD (liquid crystal display).

The two you'll likely be considering are plasma and LCD. Both types have their strengths and weaknesses. Plasma produces better contrast ratios (the ratio between the TV's blackest blacks and whitest whites) than LCD TVs, but LCD consumes considerably less power — often as little as half that of a comparably-sized plasma. However, at first glance the two types can be very difficult to tell apart.

For every plasma you see on display, you'll usually see five or six LCD models, and LCD now has the lion's share of the market. As LCD manufacturing costs drop and prices continue to run off a cliff, the plasma TVs are drying up. The number of companies still making plasmas has been steadily dropping, and even plasma hero Pioneer is to stop manufacturing. That's a pity really, because despite its higher power consumption, a good plasma TV is hard to beat when it comes to image quality. As always, there's no substitute for going into a shop and comparing them yourself. Before you decide on either type, take a look at a few samples of each with your own eyes.

_SCREEN RESOLUTION

Choosing the type of TV you want is quite simple compared to the task of working out the story on screen resolution. A TV's screen resolution tells you plenty about its ability to display sharp, high-definition video —



Make sure your TV has enough HDMI inputs to support your playback devices; generally, the more inputs a TV has, the better.

whether it's from free-to-air TV networks or from Blu-ray movies. The highest resolution you can get from a TV is called 1080p, which means the TV has 1,080 horizontal lines of picture resolution. The 'p' means it displays each of those lines one at a time in a progressive manner. This is where the phrase 'progressive scan' comes from, and it's a good thing to look out for. The alternative is interlaced or 1080i, where each alternate horizontal line is displayed alternately in an interlaced fashion. It isn't quite as good to look at, though it's cheaper to make. TVs that are 1080p give you the best image quality and come at the highest price.

Unfortunately, what muddies the waters are vendors throwing about terms such as 'Full HD', 'True HD' or 'HD TV'. All vendors use the HD term to mean high definition, but in practice, it doesn't always mean the same

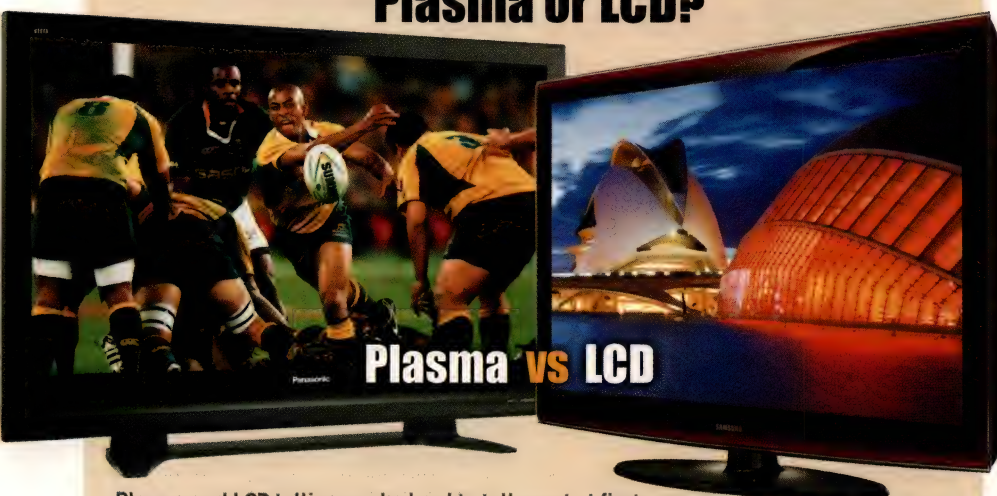
Essential TV buying tips

- * Never, ever walk into an electronics discount store and tell a salesperson you're not sure what you're after, but that you'd like a big-screen TV. You may as well throw yourself into Sydney Harbour and wait — the sharks will soon start circling in both cases!
- * Never buy the first thing you see, no matter how good it looks or how good the price seems. Until you've got a second price on the same item, you'll never know just how good that price is.
- * Retain your receipt, as it'll be the most important document you have if things start to go wrong.
- * If it's a large model, check the cost of delivery and installation. Some retailers will charge more than others for this, so if possible, buy close to home. In any case, don't forget these costs when adding up the sums.
- * Know where you're going to put it. If you have a space in mind, measure it up before you go looking so you know how big a screen you can get.



Buying a new high-definition TV won't magically fix bad reception — you'll need a decent signal to receive error-free digital TV.

Plasma or LCD?



Plasma and LCD tellies can be hard to tell apart at first glance, but our money is still on the former if you're buying a set above 42in.

thing and that's where you can get caught out if you don't check the specs.

Those 1080p TVs have a screen resolution of 1,920 x 1,080 pixels. That means you get 1,920 pixels across by 1,080 pixels down. That's as good as it gets for now. But there are other high-definition TVs out there that have only 1,366 x 768 pixels. That's not necessarily a bad thing, provided you know that you're not getting the same resolution as 1080p models, and that you're not being asked to pay the same price. If you're considering a smaller 32in TV, for example, 1,366 x 768 pixels will still give you a great image because the actual size of the dots (known as the 'dot pitch') is about the same as you'd get in a larger 46in TV with 1080p resolution.

Obviously, you want as many pixels as you can afford, but a wise choice on the TV size can also make a difference to how good a TV's pictures look.

— TV SIZES

Today's widescreen TVs come in a range of sizes, from as small as 19in (48cm) right through to 65in (165cm) and beyond. The most common sizes are 32, 37, 42, 46 and 50in. The size measurement refers to the actual screen size, rather than the whole TV set, and is measured diagonally across the screen. While it's typically the larger models that have 1080p resolution, that's not always strictly true, so when you've settled on a screen size, the next step is to look for which models offer 1080p. This way, you're going to be closer to ensuring you get the best picture quality you can afford.

That leads us to one question only you can answer: how big a TV do you need? The answer is always going to be in the eye of the beholder, but there are a couple of practical restrictions you need to consider. Apart from practical power and antenna location restrictions, you need to consider

the size of room you intend to sit the TV in. As a very rough rule of thumb, you should have about three times the TV's diagonal screen size in distance between you and the TV. For a 42in TV, for example, you need somewhere around 120in (or 3.2m) between you and it. Too much closer than that and the screen can get a bit 'big' on you. However, size really is a matter of personal taste.

— REFRESH RATE

Another aspect of the picture quality equation that has recently become a big selling point is the refresh or scan rate. You've probably seen a fair few TVs boasting 100Hz technology. These are models that have double the normal refresh rate (how frequently the image on the screen is changed) to reduce the amount of flicker you see when watching TV or DVD/Blu-ray movies. It's all done with 'mathemagic' inside the TV itself.

Not all 100Hz TVs look the same, though, and the effectiveness of each TV's 100Hz technology differs from vendor to vendor and TV to TV. Some models can create a video image so smooth that it can be a bit disconcerting to look at, particularly with horizontal panning shots. Adding to the confusion, we're now seeing 200Hz TVs and in the not-too-distant future, 400Hz TVs will appear on the market. These higher-speed TVs simply aim to reduce the normal screen flicker and give smoother motion by creating and inserting extra video frames into the stream. It won't guarantee the rest of the image is perfect, so you'll need to keep an eye on the specifications, but also take a good look at each model yourself.

— MAKING CONNECTIONS

Once you've got yourself sorted out in terms of picture resolution, size and quality, you need to give some thought to what sort of

The premium cable myth

We're continually surprised by the number of people prepared to fork out huge dollars to buy the snake oil that is some of the high-priced 'oxygen-free copper', 'titanium this' and 'super-you-beaut-that' cables available. The overwhelming majority of these cables offer little to no advantage over reasonably priced general-purpose cables you can buy from most electronics stores. A decent 3m HDMI cable should cost you no more than about \$40. If you're being asked to pay more than \$100, you're being diddled. In fact, instead of paying for one, we'd suggest asking your chosen retailer to include one as a condition of sale, free of charge.

Tech terms

Component video. A three-cable analogue video connection system that's superior to composite video and S-Video.

Composite video. A common two-wire video connection system used mostly in VCRs and portable media players.

Dot pitch. The distance between adjacent picture elements or 'pixels' on a TV screen; the smaller, the better.

DVI (Digital Visual Interface). A connection system used mostly by PC graphics cards and some notebooks. It's better than the analogue video connection options.

HDMI (High-Definition Multimedia Interface). A single-cable multiwire audio and video connection system that enables high-definition video and audio from a Blu-ray player, game console or other high-definition playback device to be connected to a big-screen TV.

Interlaced. A method of displaying alternating TV lines that gives good resolution, but with lower-cost electronics.

Pixelation. This is the effect that occurs when the digital TV signal disappears momentarily.

Progressive scan. This is the display method used by high-definition TVs and digital TV broadcasts, where each TV line is displayed one at a time.

Refresh rate. The rate at which the TV image is updated per second. It's measured in Hertz (Hz).

S-Video. A single-cable multiwire video connection system that's better than composite video, but not as good as component video.

VGA (Video Graphics Array). Most LCD TVs have one of these ports to allow for connection to a PC or notebook computer.

connections you need. It'd be a rare case where you'd only have one thing to plug into a TV; most of us have up to half a dozen things we want to plug in, so it's important there are sufficient input options to cope. Since not all devices use the same connection type to link up to a TV, they need to be of sufficient variety, too.

However, in every case, you want to use the best video option each device has to connect it. In order of best to worst, that means:

- * HDMI
- * DisplayPort
- * DVI
- * VGA
- * Component video
- * S-Video
- * Composite video

If you have a Blu-ray or late-model DVD player, or even an HD-ready games console, you'll want at least a couple of HDMI ports on the back of the TV. The better models have at least two — and three isn't out of the question either. Set-top boxes can vary, from offering S-Video as the best option through to HDMI. If you're still using a VCR, the best option here is typically just composite video. The better TV models give you a generous dollop of everything, including VGA, so you can connect a notebook computer and get good results.

_SIZING UP YOUR ANTENNA

When you've bought the TV, installed it and plugged in all of your digital devices, there's still one more important connection to make and that's the antenna. Without it, you're not going to get much at all in the way of free-to-air TV, but depending on your old antenna, you might not get much with it either.

While digital TV gets all the raps for delivering snow-free video images, it has one drawback that doesn't get mentioned too often: the fact that it's digital. With the old analogue free-to-air TV broadcasts, you'd only get a perfect picture if you were

Obsolete already?

freeview

Back in March, a Melbourne newspaper created a hullabaloo when it ran a story claiming that all current LCD and plasma TVs sold before May 1, 2009 could be obsolete. The story was based around the free-to-air TV marketing campaign called Freeview, which starts in earnest this month, and suggested that consumers would have to buy Freeview-labelled MPEG-4-capable TVs and set-top boxes to watch digital TV. Most current digital TVs and set-top boxes only support MPEG-2 broadcast video, hence the calls of 'everything new is old again'. However, the story hasn't stood up. The Freeview people have denied the story, saying no digital TV will fall over come May 1 and further stated that none of the free-to-air networks currently have any plans to move to MPEG-4 broadcasting. Certainly, if you consider buying a TV or set-top box that supports both MPEG-2 and MPEG-4, you'll be as future-proof as you can be. However, given that there are no MPEG-4 broadcasts in Australia, getting an MPEG-4 TV right now seems to be a bit of waste, especially if it costs you extra money.

close to the TV transmission tower; as you moved further away, you'd get progressively more amounts of snow in the picture, until eventually you'd just have snow.

Digital TV works a bit differently. You'll start off the same way, with a perfect picture if you're right under the transmission tower, but as you get further away the picture quality won't change — it will still look as good as it did to start with (this is one of the reasons digital TV is so popular). As you move further and further away though, at

some point the picture will suddenly start breaking up, pixelating and intermittently stopping. A short distance further and you'll have no picture at all. In fact, it's quite common to be on the outskirts of a major city and lose your digital TV signal, but still get a halfway decent analogue picture. The reason for this is that once you reach a certain threshold, there isn't sufficient digital TV signal to decode, so the whole thing just falls flat — it's often described as if the digital TV reception has 'fallen off a cliff'. One minute, it's there; the next, it isn't.

So, depending on your distance from the TV transmission towers and the age and type of your existing TV antenna, you may find that your big new TV has trouble getting a consistent error-free picture on certain channels.

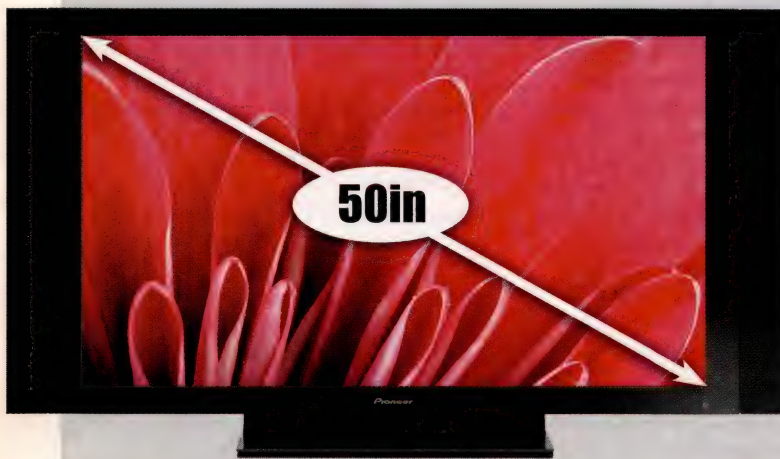
_HOW TO FIX IT

If you're in this position, there are three possible solutions. The first is the most likely to work and that's to get a new antenna. While your old TV antenna should still work, you may find a replacement digital-grade antenna will do the job. It will cost you the most and require expert installation to get right.

The second option is less fiddly, a bit cheaper, but also slightly less likely to work. It's to install what's known as a masthead amplifier. This is a special box of electronic trickery that amplifies the signal coming straight from the TV antenna. It can help overcome a less-than-brilliant antenna or in cases where replacing the antenna isn't a viable option.

The third option is the cheapest and easiest to do, but also the least likely to work: buy an indoor antenna amplifier. Basically, you plug the antenna amplifier into the wall antenna socket and then plug the TV into the amplifier. It works on the same principle as the masthead amplifier, but is typically lower grade and is connected to the down end of the antenna cable, whereas the masthead amplifier is typically connected straight to the antenna in your roof. You may be lucky and find an indoor antenna amplifier will give you enough of a boost to get the job done. The problem with cheap antenna amplifiers is that not only do they attempt to amplify the TV signal, but they also amplify the noise and junk that goes along with the signal. If that amplifier is also connected to the antenna via a sizeable cable run, there may not be much signal left to amplify.

You may even find that if the house you're in is quite old, the antenna cabling itself has lost its zip and could even be seriously attenuating the TV signal. So, while the antenna is doing its job well, by the time the signal rolls down the antenna cable, there's little of it left when it reaches the telly. Having a good antenna with a good low-impedance cable run in your house really is the key to getting excellent digital TV reception. 📺



Choose the right size TV for your viewing room; a 65in behemoth probably isn't the best choice for a tiny one-bedroom flat.

BULLGUARD INTERNET SECURITY



Please remember that the magazine you're reading right now comes with a free 6-month full version of BullGuard Internet Security 8.5 on the cover disc!

At BullGuard we want everyone to enjoy the online world with ease and confidence. BullGuard Internet Security protects your computer and your personal data from online risks.

It's all the protection you need in one solution – simple as that.

Enjoy!

Accounting for a new era

In these tough economic times, and with new online services taking on traditional accounting apps, it's an ideal time to re-evaluate your key business tool. **Kurt Best** explains.

The international economy has been hit by the 'perfect storm' over the last 18 months and no-one has been immune to the effects. At first it was large corporations that bore the brunt of the downturn in credit markets and consumer confidence. The ripple effect has inevitably moved into all levels of business. For small business the economic tsunami may have taken longer to hit, although the impact is no less devastating. There is little you can do to avoid the implosion of the economy, but there are a number of strategies that business owners should adopt to weather the storm and come out in the best possible shape.

A key strategy is to have a good grasp of your numbers. Knowing your profitability, cashflow and debt level are important matters at all times, but in the current climate they're critical. And given the pace of change, these indicators must be known in real time — not at the end of the month or quarter, and certainly not at the end of the year. If there has ever been a good time to look at installing accounting software (or if your current system can't give you the answers you need), now is the best time to act.

Accounting software should meet a number of criteria to be an effective solution for your business.

- * It should record all elements of your business inflow and outflow of funds. This is fundamental to the software's purpose, so it should be easy to use and intuitive. It should

deliver on the compliance requirements of the ATO and other regulatory bodies.

- * It should also provide reporting that will tap into important information about your finances. Ease of use is key to allow you to monitor performance and underlying trends.

- * Efficiency and automation of tasks is where most software can add maximum value to the process of maintaining the books, saving you time and extending your capabilities by guiding you through processes.

- * Reliability is crucial — the software should be robust, fit into your business dynamics and deliver consistent results. You should feel in control and not a slave to the process.

Addressing these core requirements will ensure that you have an invaluable tool for steering your business to better financial outcomes. Without at least these basic elements, you could be sailing your business through unknown territory without a map.

MYOB VS RECKON

So where to start? Two brands dominate the SME accounting software space: MYOB and Reckon (aka Quicken). Both have solutions that cater to micro through to medium enterprise. They are long-term players in Australia and set the standard for off-the-shelf accounting software.

MYOB's range begins with BusinessBasics which, as the name suggests, delivers a basic solution for a simple cash-based business, although it does offer a customer invoicing feature. Its attractive interface and easy-to-learn functionality provides a good entree to the MYOB range. If your business is set to grow in complexity, you'll be looking to take a step up into the wider functionality in the MYOB Accounting group of software.

The higher-end options range from Accounting to Premier Enterprise. As you advance through each level you'll pick up additional functionality that predominantly focuses on payroll, multiple currencies, multiple locations and advanced inventory considerations.

- 80% B-free 5 Small Business**
Price: \$299 and then \$149 annually
Contact: B-free
Phone: 1300 783 873
Web: www.b-free.com.au
- 80% Kwik-Pay Payroll 4.6**
Price: up to five employees, free; six or more employees, \$100 per annum
Web: www.kwikpay.com.au
- 80% QuickBooks 2009/10 QB range**
Price: see comparison table
Contact: Reckon
Phone: 1300 784 253
Web: www.quicken.com.au
- 80% Quicken Payroll Premier 2009/10 QB**
Price: see comparison table
Contact: Reckon
Phone: 1300 784 253
Web: www.quicken.com.au
- 80% Saasu**
Price: Free, \$0; Pro, \$59 per quarter (up to 1,000 transactions per month); Corporate, \$150 per month
Contact: Saasu
Phone: (02) 9233 6629
Web: www.saasu.com
- 75% e-PayDay 19**
Price: up to five employees, free; up to 10 employees, \$297; unlimited employees, \$605
Contact: Logisoft
Phone: (07) 3283 8800
Web: www.logisoft.com.au

The designers of this software pay careful attention to regulatory change, which makes e-PayDay a great system for managing the payroll of a highly regulated workforce.



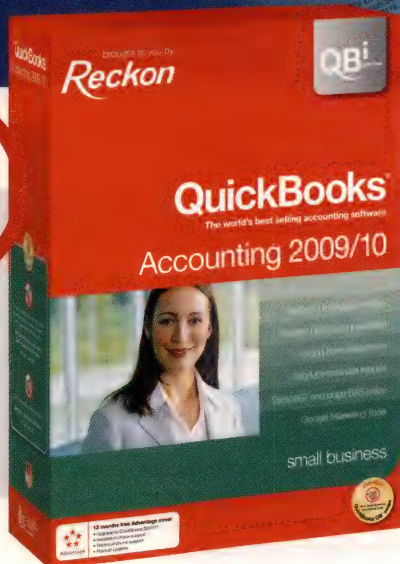


Best small business
accounting range

QuickBooks 2009/10 QBⁱ series

Excellent design and superior reporting make QuickBooks a great solution for the growing or fully grown business — just watch the pricing and make sure you choose the option that fits your needs.

PC USER
**BEST
BUY**



Reckon has a similar range available under the QuickBooks brand. QuickBooks EasyStart is the equivalent starting point to BusinessBasics, covering cash records and also providing a basic accounts receivable function. There is a Lite version of EasyStart, but this has such a limited application (a maximum of 20 suppliers and customers) it's unlikely to suit many businesses.

Then, it's a choice from Accounting through to Enterprise editions, with an almost identical line up to MYOB in incremental features. The 2009/10 release doesn't offer much in the way of new features and little has changed from last year's significant upgrade, which brought QuickBooks onto a new database platform. This new generation of QuickBooks released in 2008 (known as QBⁱ) provides more efficient management of large transaction volumes, which should give a business with growth plans some comfort that the software can stay the course.

Data management is a key consideration when looking at each range, especially with the impact on their reporting capabilities. MYOB Accounting has a comprehensive set of preconfigured reports, which all have a reasonable level of customisation available. The way the data is organised, you have ready access to three financial years — usually the current one, the one ahead and the most recent past. This will address the most common reporting needs of a business. However, QuickBooks delivers far more flexibility, with access to a broader data set, which is now better supported by the new database design. In previous versions of QuickBooks, the availability of limitless financial years of data slowed down the system considerably.

MYOB Accounting's appeal is in its structured and methodical approach to transaction recording. The consistency of the screen design and discipline will help train users and avoid errors. The reason a number of accountants like MYOB is because their clients' bookkeeping efforts can be more easily controlled. Put simply, there's less potential for an electronic version of

the shoebox full of receipts, which all accountants hate.

In selecting a preferred option, we've considered QuickBooks' significant redesign, superior reporting capabilities and flexibility highly commendable. Add to that the current offer of Customer Manager (a basic CRM add-on to QuickBooks that will help you track and better service your customer base) as a free add-on, and you have a terrific solution to help you survive the recession.

THE REST OF THE FIELD

MYOB Accounting and QuickBooks aren't the only accounting software packages, of course. There are many other options in the market that are well worth a look, and you may find a price and fit that suits your business better.

At the simplest level, most accounting applications offer the ability to record bank transactions, provide some level of invoice preparation and track GST. From Reckon there's Quicken Home & Business, which is considered a step before the QuickBooks family. Home & Business is effectively a version of the very powerful personal finance manager Quicken Personal, which has been extended to deliver GST compliance and other business-level functionality. This is a good solution for a home office, where there's a blend of personal financial management and business transactions. The only hesitation with this package is the price: it's more expensive than a number of other broader-based accounting packages. If the price isn't a show-stopper, then you'll likely enjoy the depth of functions Home & Business

75%

MYOB Accounting range

Price: see comparison table
Contact: MYOB
Phone: 1300 555 111
Web: www.myob.com.au

75%

Wages Manager 7

Price: \$249; with Cashflow Manager, \$495
Contact: Cashflow Manager
Phone: 1300 887 868
Web: www.cashflow-manager.com/australia

70%

Bionic Books

Price: free for limited functionality; Premium version, £60
Web: www.bionicbooks.com

70%

Cashbook Complete 5

Price: Complete, \$180; Cashbook Lite, \$90
Contact: Acclaim Software
Phone: 1800 148 591
Web: www.acclaimsoftware.com.au

70%

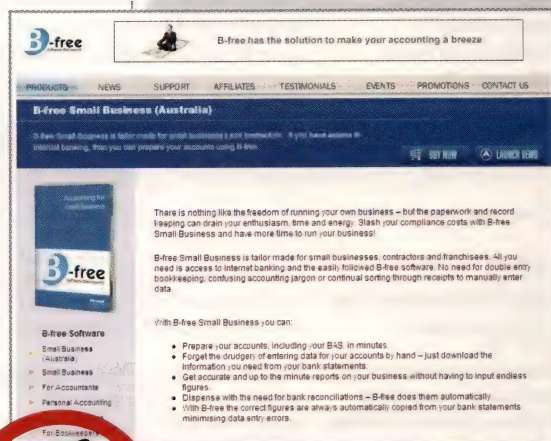
TurboCASH Accounting 3.7

Price: free
Contact: Dynamic Bottom Lines
Phone: (03) 9597 9791
Web: www.dblonline.com.au

65%

e-Record 6.1

Price: free
Contact: ATO
Phone: 1300 139 051
Web: www.ato.gov.au/erecord



PC USER
**BEST
BUY**

Best small business online
accounting system

B-free 5

This is a great innovation in online solutions, making huge steps toward transaction entry efficiency. It's great for small cash-based businesses that need to get the books done and keep the ATO happy.

provides; there's even a carbon footprint calculator.

Price is one of the major motivators when evaluating software, so it's worth evaluating free solutions, such as e-Record from the ATO. Version 6.1 was released earlier this year and while not much has changed recently, you can be sure that the ATO will be continuing to support and enhance this product so that no business taxpayer has an excuse not to keep at least the most basic of tax records.

This could not be said for other freeware accounting software, which has traditionally been marred by plenty of innovative and

well-intentioned applications that simply don't deliver consistently, and these apps inevitably fade away.

TurboCASH is an exception, with the full version being freely available for download and suited to a single PC-only business. It addresses all of the common accounting functions with some surprising extras, such as point-of-sale and stock control. There's quite a bit to this package, which complicates the interface somewhat, but if you're determined to get a package working for no outlay, then you could have an answer with TurboCASH.

On a similar theme, but with a slightly friendlier interface, is Cashbook Complete. There's a free version of this software, but it won't cater to a business tracking GST. The business versions provide a great cashbook recorder and a customer invoicing, time and costing ledger. There's a basic range of standard reports, but customisation is restricted and therefore allows only limited insight into business performance. However, for a low price it does provide a reliable accounting system.

ACCOUNTING ONLINE

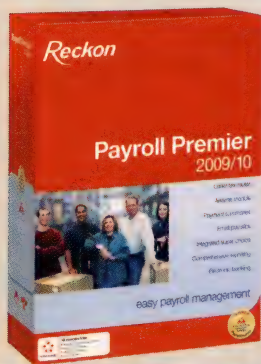
It has taken some time for online solutions to become viable for the SME accounting space,

but this year we've reviewed a fantastic range of contenders — all at low or no cost, with a good range of features.

Bionic Books is a UK-based online accounting system, free for the basic functionality or £60 per annum for full access. The design is good and surprisingly easy to customise for Australian conditions. It doesn't deliver on other fronts, however, especially reporting and ease of access to underlying transactions.

For a more sophisticated online solution, Saasu is well worth a look. Although the entry level is free, exceeding 15 transactions in a month will trigger the subscription of \$59 a quarter (\$236 annually), and even the tiniest of businesses will easily push this 15-transaction boundary. The interface is better than Bionic Books, with more functionality available and added features such as a dashboard view of business performance and 'connectors' to everything from banks to Facebook. For the virtual business, these can be anywhere you are, and the opportunity to have others (such as accountants, business partners and so on) accessing this information online may be a significant plus.

A variation on this online theme is B-free, which is aimed at reducing the data entry



For the extra cost you expect more from Payroll Premier and for the most part, you get it. It's easy to use, quick to fix when you make errors, and offers good customisation in reports.

MYOB & RECKON: PURCHASING OPTIONS

| MYOB | | Full retail price | Upgrade price with MYOB Cover* | Software-only annual subscription | MYOB Cover annual fee** |
|---|--|-------------------------|--------------------------------|-----------------------------------|--------------------------------|
| MYOB BusinessBasics | Simple single-user business management (invoicing and BAS only). | \$169 | N/A | N/A | \$99 |
| MYOB Accounting 18 | Basic single-user accounting (no payroll). | \$349 | \$299 | N/A | \$279 |
| MYOB Accounting Plus 18 | Single-user accounting with payroll, time-billing and inventory. | \$639 | \$439 | N/A | \$399 |
| MYOB Premier 12 | Multuser accounting with payroll, time-billing, inventory and foreign currency support (12-month MYOB Cover included). | \$1,495 | \$595 | N/A | \$529 |
| MYOB Premier Enterprise | Higher-end system supporting terminal services for use over multiple sites. | \$3,950 | N/A | N/A | N/A |
| Reckon | | Full retail price | Upgrade price | Software-only annual subscription | Reckon Advantage annual fee*** |
| Quicken Home & Business 2009 | Personal financial and simple business management (invoicing and BAS only). | \$449 | \$210 | \$105 | \$210 |
| QuickBooks EasyStart Lite 2009/10 QBI | Simple single-user business management (invoicing and BAS only), limited to 20 entries in a list of customers/suppliers. | \$29.95 | N/A | N/A | N/A |
| QuickBooks EasyStart 2009/10 QBI | Simple single-user business management (invoicing and BAS only). | \$149 | N/A | N/A | N/A |
| QuickBooks Accounting 2009/10 QBI | Basic single-user accounting (no payroll or inventory tracking). | \$299 | \$199 | \$155 | \$199 |
| QuickBooks Plus 2009/10 QBI | Single-user accounting (with payroll and inventory). | \$595 | \$399 | \$295 | \$415 |
| QuickBooks Pro 2009/10 QBI | Multuser accounting with quoting, job costing and multiple currencies. | \$879 | \$549 | \$375 | \$575 |
| QuickBooks Premier 2009/10 QBI | Includes multiple licences, offers industry-specific customisations and multiple pricing levels on inventory. | \$1,499 | \$849 | \$575 | \$849 |
| QuickBooks Enterprise 2009/10 QBI | Multiple site, intercompany reporting and comprehensive support (large business option). | N/A (subscription only) | \$2,500 | \$4,500 | N/A |
| QuickBooks Customer Manager 3 | Contact management add-on for QuickBooks. | \$329 | \$189 | N/A | \$175 |
| Reckon Payroll Premier 2009/10 | Standalone payroll management package. | \$629 | \$399 | \$299 | \$399 |
| Reckon Payroll Premier 2009/10 (multuser version) | Standalone payroll management package. | \$1,369 | \$700 | \$619 | \$700 |

* MYOB offers some standard upgrades, but here we've included the upgrade price with 12-month MYOB Cover subscription (see below), because it's generally not much more expensive than a standard upgrade. ** MYOB Cover subscription includes free software upgrades, tax and compliance updates, free access to M-Powered services (transaction fees still apply), free and extended support and more. MYOB Cover is not available for all MYOB products. The above subscription fee for BusinessBasics is for MYOB Technical Support (which includes free and extended support, free access to some M-Powered services, but no software upgrades). See <http://tinyurl.com/p5m15> for MYOB's full support subscription details. *** Reckon Advantage requires an additional once-only \$100 joining fee and users must have the latest version to join. The Advantage program provides free technical support, software upgrades, tax and compliance updates, and more (see <http://tinyurl.com/d6p48h> for details). For those who don't need the Advantage support benefits, Quicken also offers software-only subscriptions (available from www.estimate.quicken.com.au). N/A: Either not available or not applicable for this software.

Discover One of Australia's Best Kept Secrets!

Small Business Accounting Really Can Be This Easy!

When most people think of accounting software, their minds go straight to the heavily marketed brands of the big companies.

But for many small business owners this may be a mistake because the Sydney Morning Herald reported:

"Accountants claim eight out of every 10 small businesses are making horrendous mistakes using the more complex double-entry bookkeeping software now on the market." It then goes on: "Unless you have a working knowledge of double entry accounting you're likely to make a thorough mess of complex software systems such as Quickbooks, MYOB and the others."¹

And if you make a 'thorough mess' of your bookkeeping, it can cost you thousands of dollars in increased accounting fees, and leave you at risk when you get a tax audit.

But there is a software program that was described as 'breathtakingly simple' in The Age².

It was also called 'one of Australia's best kept secrets' in The Australian³ mainly because of its low (but growing) profile in retail outlets as most of the 123,000 Australian businesses have bought Cashflow Manager through their accountants.

Accountants who use Cashflow Manager with their clients are full of praise for it.



Like Michael Osborne from McMahon Osborne Consulting in Sunbury, Victoria who reports that over 70% of his clients use Cashflow Manager and 98% provide reconciled records compared to 10%-20% of clients using other programs. This allows Michael to help his clients make money rather than spending excessive time and cost just doing accounts and tax returns.



Accountant Bill Maguire from Chris Loft & Associates in Maryborough, Qld has a similar story with 60% of clients using Cashflow Manager and over 95% of those clients providing the firm with reconciled records.

Bill says, "We show them Cashflow

Manager which is such a magic program. People relate to it and they jump at the chance to use a program that is so easy to use, saves them time to spend on their business, saves them unnecessary accounting costs and has everything they need to do the job well."

And these comments are echoed by accountants all around the country as you can see by reading the Accountant Case Studies on the Cashflow Manager website (www.cashflow-manager.com).

But how is Cashflow Manager so different to other accounting programs?

Wayne Burgan, who founded Cashflow Manager after working as an auditor in the Australian Taxation Office and then running a successful accounting practice says that the Cashflow Manager goal is to develop the simplest small business accounting software on the planet.

Accountants report that Cashflow Manager's easy column design and simple wizards result in 95-98% of small business clients providing them with reconciled records

And to achieve this, Cashflow Manager has a unique column design similar to a spreadsheet where the user simply records the receipt or payment in the column that matches the transaction.

Each column has a GST 'tax type' that automatically calculates the GST so completing your BAS is as simple as printing a report.

So the user doesn't need to know anything about accounting, and all the transactions stay on the screen where you can easily find them rather than disappearing into the 'black hole of the computer' like other programs.

Cashflow Manager tracks receipts and payments and has a simple wizard to match your records to your bank (called a Bank Reconciliation). *This is what the accountants are referring to when they say that 95% to 98% of clients using Cashflow Manager provide them with reconciled records (which saves them hours of time).*

There are also sections to prepare budgets as well as customer invoices

and manage money owed to you by customers.

This is all that many small business owners need to keep excellent records.

But the Cashflow Manager GOLD program is also available for small business owners who want to track suppliers invoices or inventory, and it includes Wages Manager for those with employees.

"Like all of our programs", Wayne says, "Wages Manager is designed to be amazingly simple so a business with just one employee can benefit from using it. But in a survey we discovered people with hundreds of employees using the program and it is saving them hours over the systems they had used previously."

As with accountants, there is no shortage of small business owners who are happy to sing Cashflow Manager's praises.



Like Jenny McIntosh from McIntosh Meats who says: "Cashflow Manager GOLD is so simple to use and very easy to understand. It has cut my bookkeeping time by at least 75% and has made the End of Financial Year a piece of cake."

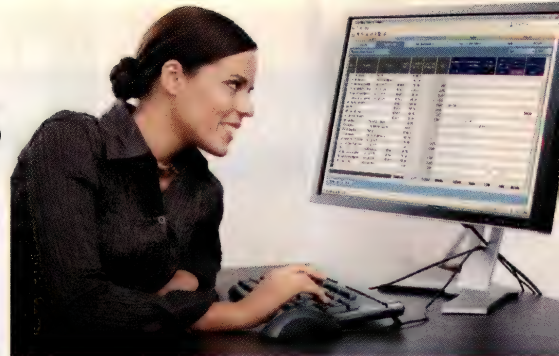
In fact, it is not just small business owners as Churches, Sporting Clubs, and even the Victoria State Emergency Service use it with all their branches.

Ric Jose from the SES says: "As an organisation with volunteer bookkeepers who frequently change, Cashflow Manager is perfect because it is so simple."

So if you are struggling with the accounting side of your business, would like to save money with your accountant, and have piece of mind when the Tax Office calls, you need to take a look at Cashflow Manager.

Not only can you access a 30 day free trial of the program, Cashflow Manager also comes with a 90 day full money back guarantee, and 90 days free telephone support.

To find out more and get access to a free demo, call **1300 88 78 68** or visit www.cashflow-manager.com

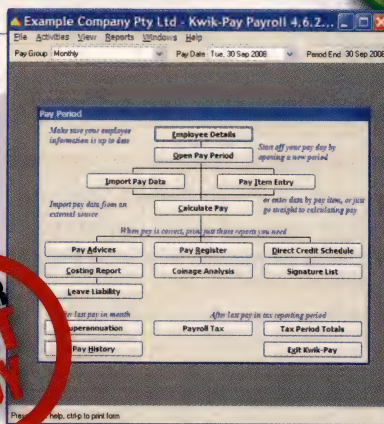


¹ Sydney Morning Herald 6/02 ² The Age 6/3/01, ³ The Australian 2/11/04

FEATURE

Best small business payroll product **Kwik-Pay Payroll 4.6**

Although it looks like old technology compared to many other systems available, the beauty of Kwik-Pay is in its full range of payroll features, no-frills design and, best of all, the price.



cycle for small businesses.

This online system streamlines the process of importing bank transactions electronically from your bank's web site. It then uses a memorisation process to automatically categorise your transactions and cut down dramatically on the data entry process. The ingenious design is aimed at a straight-through process for preparing the business books and BAS, and for this it's in a class of its own. Setting up the records and memorising the narration patterns will take a bit of time, but is a good investment for future efficiency. While there are limitations when it comes to reporting and extended functionality, if saving time is of the utmost importance, then this is a system that delivers.

Reckon is also looking to enter the online space by publishing QuickBooks via an internet portal. Due for release before the end of this financial year, we roadtested a demonstration system, which proved very impressive. Quite simply, it's the full QuickBooks application accessed via the internet, using Windows Server 2008's TS Web Access technology. We tested the application on an ADSL2+ connection and found no speed issues, and it essentially behaved exactly as the locally-installed version had. Pricing and other details are not yet known, but if it's competitive with the other online solutions reviewed, QuickBooks Online could revolutionise the online accounting space. Because the look and feel is identical to a desktop application, there is none of the clunky window refreshes and interface constraints that are a hallmark of a browser-based application. We'll keep an eye on this option as it develops.

_ PAYROLL

You don't have to employ many staff for payroll to become one of the most-used

Online accounting solutions have come a long way and Saasu just keeps getting better. Integration with other internet-based systems is a key drawcard, which will particularly inspire net-savvy business.

components of your accounting systems. A typical five-staff, weekly-paid workforce will have between 280 to 300 payroll-related transactions each year. In addition there are tax, superannuation and leave entitlement calculations that must be reported to employees and other third parties. It's not hard to see how important the role of payroll software is to a business.

Many accounting packages will offer a payroll function and this should be where you first turn. An integrated payroll solution will streamline other aspects of your record keeping and reporting. The market leaders MYOB Accounting and QuickBooks both offer comprehensive payroll functions. They address most payroll situations and maintain up-to-date tax rates and reporting obligations.

If payroll isn't included in your accounting software, is too limited, or you like the thought of keeping it separate, then there are a number of standalone packages on offer.

Payroll Premier from Reckon is an excellent standalone product, with flexibility as its key selling point. The current 2009/10 release incorporates the latest legislative changes that have been an annual event in employment compliance over the last decade, but doesn't add much in the way of functional change. The payroll process in Premier is easy to follow and robust. It's one of the more expensive options for small business, so be sure that you need the full



The structured approach of MYOB Accounting provides a discipline that will suit many businesses. The entry-level BusinessBasics addresses a small cash business situation with a great interface.

range of features before going to this level.

Wages Manager is a lower-cost option, with an impressive setup wizard that takes you effortlessly through steps to getting your pays done. A much simpler and no-frills approach, it will suit a payroll situation along the same lines. The most prominent value-adding feature of Wages Manager is its handling of employees with special tax withholding arrangements, such as shearers or fruit pickers.

e-PayDay is another standalone package, offering a great user interface and wide range of options. e-PayDay offers multiuser capability, which will suit larger payrolls with multiple pay administrators. It's affordable at the introductory levels (free for up to five employees) and features excellent integration options to other accounting systems and time-recording tools.

Another free option for up to five employees is Kwik-Pay. With surprisingly simple and wide-ranging functionality, Kwik-Pay is able to handle complex pay structures and covers all of the necessary reporting and entitlement tracking functions. The downside is in the interface, which is far from appealing and suggests the software hasn't strayed far from its origins back in the '90s. However, for only \$100 for the unlimited employee version, it can't be beaten for price.



175 EXPERT SECRETS

Work smarter, faster
and save money with
our very best tips.

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Windows Vista

By Rose Vines

CUSTOMISE THE LOGON SCREEN

Vista's logon screen is serviceable rather than inspiring. A freebie called LogonStudio lets you replace that pedestrian screen with one of your own. You'll find a copy of LogonStudio on this month's cover disc or you can get it directly from www.stardock.com/products/logonstudio (note the Download link refers to a Windows XP version of the program, but clicking the link gives you the choice of downloading either the XP or Vista version).

Once you've installed LogonStudio, it's a simple matter to create a new logon screen. To use one of the pre-supplied screens, launch the program, click any of the sample screens and then Apply. LogonStudio will lock your screen so you can see your chosen screen in action. If you'd prefer your own screen, click Create and then use the Browse dialog box to locate an image to use, then click Apply. LogonStudio will resize the image for you.

ALLOW VISTA TO SLEEP UNDISTURBED

Vista's Sleep mode puts your computer into a low-power mode while remaining ready to awaken quickly. Unfortunately, many things can disrupt Vista's nap time. If you find your computer wide awake when it should be slumbering or unable to sleep at all, a likely culprit is a device such as a mouse, keyboard or network card, which is set to wake the computer. Here's a quick way to check for such a device.

- 1 Click Start and type **cmd** in the 'Start Search' box.
- 2 Right-click **cmd.exe** in the Programs list and select 'Run as Administrator'.
- 3 At the command prompt, type **powercfg -devicequery wake_armed** and press Enter.

TOP TIP

Copy a folder's contents

Here's a quick way to copy an entire folder from one location to another.

1. Open a folder that contains several documents.
2. Right-click the breadcrumb bar and select 'Copy Address'.
3. Minimise the open folder, right-click the desktop and choose Paste. A copy of the folder and all its contents will be placed on your desktop.



On the cover DVD

You'll find Desktop Restore, LogonStudio and Fences on this month's cover disc.

You'll see a list of devices that are set to wake Vista.

- 4 Type **exit** to close the command window.

If the **powercfg** command uncovers one or more devices set to wake the computer, you can disable that ability through 'Device Manager'.

- 1 Type **device manager** in the 'Start Search' box and press Enter.
- 2 In 'Device Manager', check the properties of the suspect devices. For example, to check a keyboard, double-click the Keyboards section to expand it, then right-click the listed keyboard and select Properties. In the Properties dialog, click the 'Power Management' tab and untick the option to 'Allow this device to wake the computer'. Other devices you may need to check are mice, network cards and universal serial bus controllers.

If your computer is still unable to sleep undisturbed, check that it's not being woken by a media-hungry computer on your network.

- 1 Type **power options** in the 'Start Search' box and press Enter.
- 2 Under the Balanced option, click 'Change plan settings' —> 'Change advanced power settings'.
- 3 In the list of settings, scroll to 'Multimedia settings' —> 'When sharing media' and choose 'Allow the computer to sleep'.
- 4 Repeat these steps for the other power plans (although you may wish to leave the setting on 'Prevent idling to sleep' for the high-performance plan).

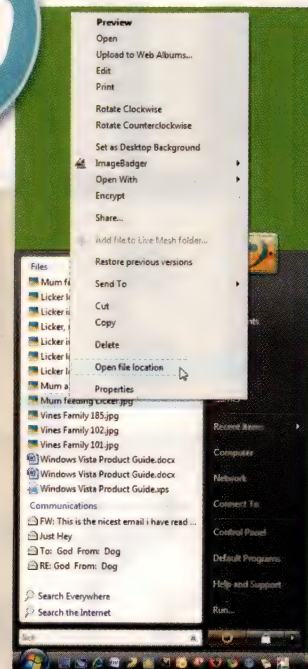
RIGHT-CLICK EJECT

If you're tired of rummaging through the icons in the notification area when you want to safely eject a USB drive, use a registry hack to provide a quick eject option right on the desktop. Remember, editing the registry has risks; make sure you back up any registry keys before you edit them and if you're not sure of what you're doing, leave well enough alone.

- 1 Type **regedit** in the 'Start Search' box and press Enter.
- 2 Navigate to **HKEY_CLASSES_ROOT\directory\background\shell**.



If you want to find where a file or program is located, type the filename in the 'Start Search' box, right-click the item you want and select 'Open File Location'.



- 3 Right-click the shell folder and select **New** —> **Key**.
 - 4 Name the key something descriptive, such as **Quick Eject**.
 - 5 Right-click the newly created 'Quick Eject' key, choose **New** —> **Key** and name the key **command**.
 - 6 Click the 'command' key and double-click the Default value in the right-hand pane to edit it. Change the value to **RunDll32.exe shell32.dll,Control_RunDLL hotplug.dll**.
 - 7 Close the Registry Editor.
- Now, when you want to eject a disk, simply right-click an empty spot on the desktop or within a folder and select 'Quick Eject'. The 'Safely Remove Hardware' dialog will appear and you can select the disk to eject.

UNCLOG YOUR PRINTER QUEUE

When you click the Print button in an application, the document or image you're printing is shunted off to the print spooler, which then feeds the job to the printer. The print spooler queues all documents waiting to be printed, which means you can print a dozen envelopes from Microsoft Word and simultaneously print a photo from Picasa, and the spooler will ensure both jobs get completed.

That is, unless the print spooler gets clogged. This can happen for all sorts of reasons and when it does, the document that's gumming up the works will block all other documents in the queue. Occasionally, you can clear the blockage by double-clicking the 'Print Spooler' icon in the notification area, right-clicking the first document in

stepbystep MOUNT A CD IMAGE

Large software downloads are sometimes delivered as disc image files in ISO format. To use a disc image, you usually have to burn it to CD or DVD using special software. You can avoid using up your discs and save quite a bit of time by using a disc mounting utility instead. A disc mounter creates a virtual DVD drive and instead of sliding a disc into the drive, you 'mount' a disc image into the virtual drive. A good freeware disc mounter is Elby CloneDrive (www.elby.ch/fun/software). Vista will give you a warning when you're installing the software; it worked flawlessly on our test systems, but if you're anxious about your system, give it a miss.

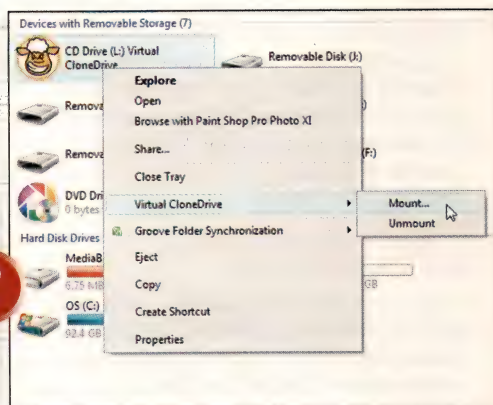


1

Once you've installed CloneDrive, double-click its icon to set it up. You can install eight virtual drives. By ticking the 'Virtual Sheep' option, virtual drives will be distinguished by a sheep icon, making them easy to spot.

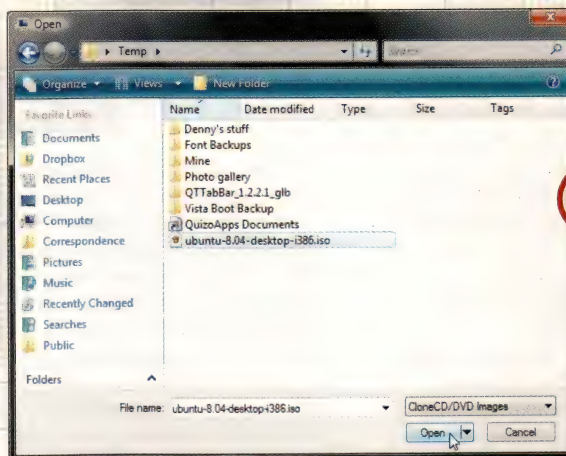
Open Computer and you'll see your new CloneDrive. Right-click it and select 'Virtual CloneDrive' → Mount to load a disc image.

2



3

Use the Browse box to locate the .iso file and then click Open. Your software is now ready to use, just as if you'd loaded a disc into a drive. When you've finished using a particular 'disc', right-click the CloneDrive icon once more and unmount it.



the queue and selecting Cancel. More often than not, this won't work. In that case, one option is to switch off the printer, reboot your computer, switch the printer back on and print your documents once more. A much easier solution is to stop and start the 'Print Spooler' service.

- 1 Click Start, right-click Computer and select Manage to open the 'Computer Management' console.
- 2 In the left-hand pane of the console, click 'Services and Applications' → Services. A list of Windows services will appear on the right.
- 3 Locate the 'Print Spooler' in the list of services and double-click it.
- 4 Click the Stop button to stop the service.
- 5 Once the service has been stopped, click the Start button to restart the service.
- 6 Click OK to close 'Computer Management'.

CHANGE YOUR COMPUTER'S OWNER

Does your computer claim it's registered to someone other than you? You can check by clicking Start, typing **winver** in the 'Start Search' box and pressing Enter. Some computer companies insist on setting their own name as the registered owner of the computer, or if you've inherited a computer from someone else, their name may still be emblazoned on the 'About Windows' screen. To claim ownership, use this registry hack.

- 1 Click Start, type **regedit** in the 'Start Search' box and press Enter.

- 2 Navigate to HKEY_LOCAL_MACHINE\Software\Microsoft\Windows NT\CurrentVersion.

- 3 In the right-hand pane, double-click RegisteredOwner, type your name in the 'Value Data' box and click OK.

- 4 If your computer is also identified with an organisation, you can change it by double-clicking the RegisteredOrganization key and changing its value.

- 5 Close the Registry Editor.

CHANGE POWER BUTTON FUNCTION

When you click Start, immediately to the right of the search box is a Power button. You'd think clicking it would turn your computer off. You'd be so wrong. Instead, this button puts your computer into a low-power mode, equivalent to the Standby mode on many notebook computers. If you'd rather have that Power button switch your computer off completely, you'll need to adjust the power options.

- 1 Click Start, type **Power Options** and press Enter.

- 2 Click 'Change power settings' under your selected power scheme. (Note that if you use more than one scheme, you'll have to go through this process for each power scheme you use.)

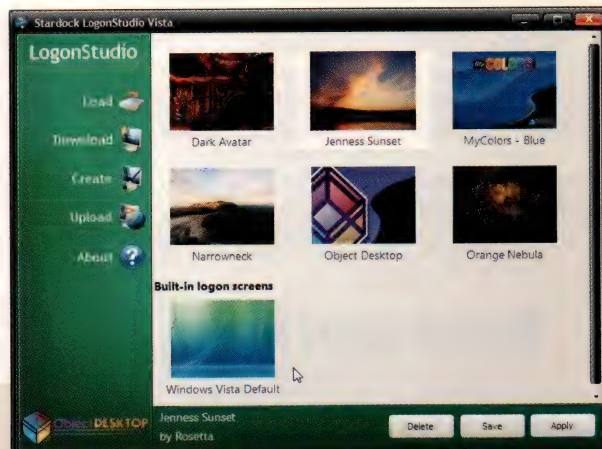
- 3 Click 'Change advanced power settings'.

- 4 Click the plus sign beside 'Power buttons and lid' to expand it and then do the same with 'Start menu power button'.

- 5 Click the current setting and select 'Shut down' from the drop-down list, click Apply and then OK.

Bug alert: it appears that Service Pack 1 introduced a bug into Vista's Power button. Changing this setting doesn't always 'take'.

Revamp your logon screen with Stardock's LogonStudio.



You may need to repeat the steps above to ensure the Power button's function has been changed. One way to check whether you've been successful is to click Start and hover the mouse pointer over the Power button. A tooltip will appear indicating the current setting for the button.

_RIGHT-CLICK ENCRYPTION

Vista's Encrypting File System — available in the Business and Ultimate editions and in limited form in the other editions — lets you encrypt files and folders to secure their contents. Once you've encrypted a file, whenever you open it, Vista will automatically decrypt it, so the process is almost transparent. But without your logon ID and password, no-one else can gain access to these files.

To encrypt a folder or file, you right-click the item and select Properties —> General tab —> Advanced button and tick 'Encrypt contents to secure data'. A registry edit will let you add an Encrypt/Decrypt option directly to the right-click menu.

- 1 Click Start, type **regedit** in the 'Start Search' box and press Enter.
- 2 In the Registry Editor, navigate to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced.
- 3 In the right-hand pane, right-click and select New —> 'DWORD (32-bit) Value'.
- 4 Name the new key **EncryptionContextMenu**.
- 5 Double-click the EncryptionContextMenu key, change its value to 1 and click OK.
- 6 Close the Registry Editor.

Now, when you right-click an unencrypted file or folder, you'll see an Encrypt option in the context menu; if you right-click an encrypted file or folder, you'll see a Decrypt option.

_OBSERVE SEARCH SCOPE

When you search from within a folder, Vista automatically limits the range of the search to that folder and its subfolders. So, if you open the \username\Documents\Trips folder and type the search term **budapest**, you'll turn up all the documents with 'budapest' in the title, contents or properties within the Trips folder and its subfolders. However, if you have a separate \username\Documents\Homework folder containing research or essays about Budapest, those documents won't show

_TOP TIP

Resize your icons

It's a snap to resize Vista's desktop icons: click any of the icons, press the Ctrl key and scroll your mouse wheel up to increase the icon size or down to decrease it.

Organise your desktop icons with the freeware program Fences.



up in your search. Vista displays the scope of the current search in the address bar.

A simple way to expand the scope of your searches is to search directly from the 'Start Search' box on the Start menu, or open the Search Explorer (click Start —> Search or press Windows key-F). You can also expand a search by clicking the 'Advanced Search' link at the bottom of any search and then selecting Everywhere or 'Indexed Locations' in the Location box. Note that expanding the scope, although more thorough, will reduce the speed of your searches.

_CORRAL YOUR DESKTOP ICONS

Are you incorrigibly messy when it comes to your desktop? Whip your desktop icons into shape with another free utility from Stardock called Fences (from www.stardock.com/products/fences or this month's cover DVD).

Fences creates translucent stockades into which it herds your icons: system icons in one area, folders in another, documents in their own place, programs by themselves, and so on. You can either let Fences automate the task of divvying up your icons into a set of standard areas or you can take complete

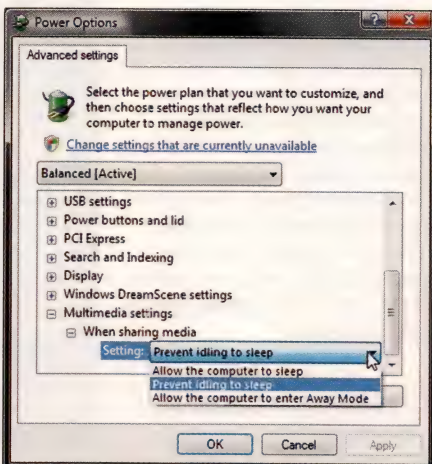
control of the process. Configuration options let you adjust everything from transparency levels to corral names, to sizes and placement.

One small feature of Fences transforms it from a handy utility into a really handy utility: double-click an empty spot on your desktop and all the icons will disappear; double-click once more and they'll spring back into view. A right-click option lets you exclude specific icons or specific corrals from being hidden in this way, so your most-used icons always remain visible.

_RESTORE ICON LAYOUT

If you change screen resolutions frequently or if something else alters the tidy arrangement of your desktop icons, a utility called Desktop Restore will make your life easier. Download it from www.midiox.com/html/desktop.htm or grab it from this month's cover disc. Desktop Restore lets you save multiple desktop icon layouts: one for each resolution you use, plus additional custom layouts. You can then restore any of those layouts with a click or two.

Once you install the program, use it by right-clicking an empty spot on the desktop and selecting 'Save Desktop'. Desktop Restore saves the layout with the current resolution as the layout name. If you mess up your icons, right-click the desktop once more and choose 'Restore Desktop'; the program will automatically restore the correct layout for your currently displayed resolution. A 'Custom Save/Restore' option lets you save and name additional layouts and choose which layout to restore from a list.



Multimedia sharing across a network may be preventing your computer from sleeping.

TOUGH TIMES REQUIRE TOUGH ACTION



Twinhead recommends Windows Vista® Business

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- 4GB DDR2 • 320GB HDD • DVDRW • 3G Module
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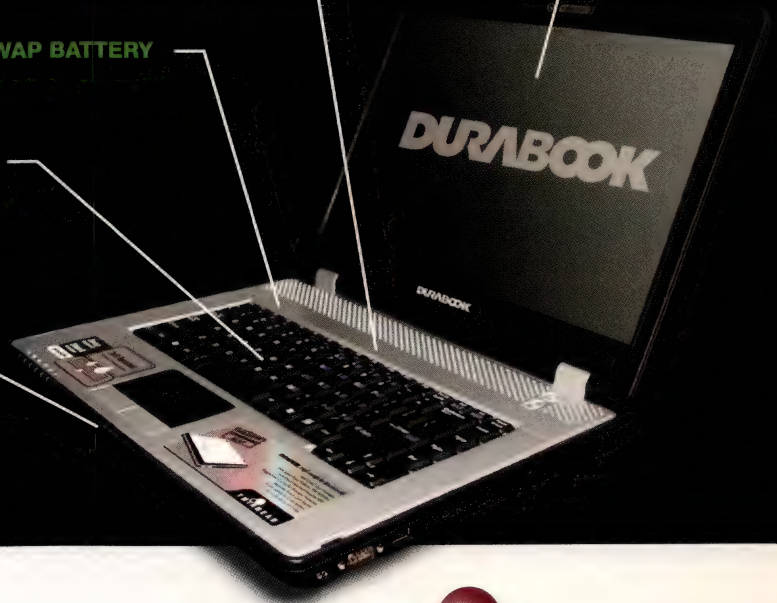
DROP RESISTANT

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HOT SWAP BATTERY

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TWINHEAD
The Notebook Specialist

Windows XP

By Link Harris

BROWSE MULTIPLE FOLDERS

If you want to work with more than one 'My Computer' window, but don't like the hassle of continually reopening 'My Computer' to browse to a different folder, you can make folders always open in a new window. To do this, open 'My Computer' and click Tools → 'Folder Options' → General tab → 'Open each folder in its own window' in the 'Browse folders' box and click OK. Don't select this option if you don't want this to happen every time you browse through a folder tree. Instead, simply press and hold the Ctrl key when you double-click the folder you want to open in a new window.

ACCESS LINUX PARTITIONS

Although Linux can work with partitions formatted with either NTFS or FAT32, XP can't handle Linux's ext2/ext3 partitions. If you intend dual-booting Linux and XP and think you may need access from XP to data created in Linux, the best way to do this is to partition your hard disk with a third data partition formatted with NTFS. If you didn't think of this before setting up the dual boot and don't want to create a data partition using third-party partition management software, freeware Ext2 Installable File System for Windows (available at www.fs-driver.org or on this month's cover disc) lets you access ext2/ext3 partitions from XP.

GROUP NAMES

Windows 2000/XP/Vista all have various user groups with different levels of access to the PC, and all users must be a member

of at least one of these groups. This gives an easy way to specify a predetermined range of privileges for various collections of users. However, there is confusion around this, because a user group in both XP and Vista is called an 'account type' in the native 'User Accounts', and the name of the account type is slightly different from the group names used in the other applets that deal with user accounts. For instance, 'Limited account' in 'User Accounts' is called the 'Users group' in 'Local Security Policy', 'Local Users and Groups' (XP Professional only) and the 'User Accounts' applet you get by typing **control userpasswords2** into a Run box and pressing Enter.

CHANGE ACCOUNT TYPE

Towards the end of XP's installation process, you get a screen asking you to supply the names for user accounts on the PC. These are all put in the Administrators group, as are new users you create from 'User Accounts', if you accept the default account type. However, you may soon discover that you don't want everyone who uses your PC to be able to install programs and hardware, or modify someone else's user account. Fortunately, it's easy to change the user group for an existing user.

- 1 Click Start → 'Control Panel' → 'User Accounts' and double-click the username.
- 2 Click 'Change the account type', choose the account type you want and click the 'Change Account Type' button.

HIDE LAST USER

You can help secure your PC from rogue local users by using 'Classic Logon Prompt' instead of the Welcome screen. The latter displays all the usernames and is an invitation to guess at passwords and try for usernames with no passwords. To change this, click Start → 'Control Panel' → 'User Accounts' → 'Change the way users log on or off'. Then, untick 'Use the Welcome screen' and click the 'Apply Options' button. However, by default, 'Classic Logon Prompt' displays the name of the last user

You can opt to have folders always open in a new window.

Help secure your PC against rogue local users by not displaying the username of the last logon.

On the cover DVD
You'll find Ext2 Installable File System for Windows and WinDirStat on this month's cover disc.

who logged on and this partially scuttles its additional security. To clear the username in XP Professional, click Start → 'Control Panel' → 'Performance and Maintenance' → 'Administrative Tools' → 'Local Security Policy' → 'Local Policies' → 'Security Options' and then enable 'Interactive Logon: Do not display last user name'.

RUN XP FROM RAM

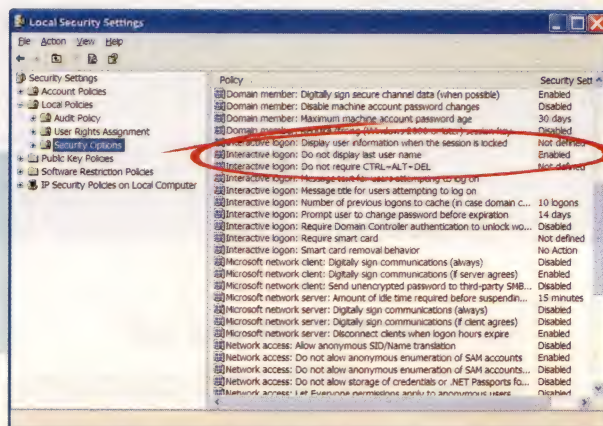
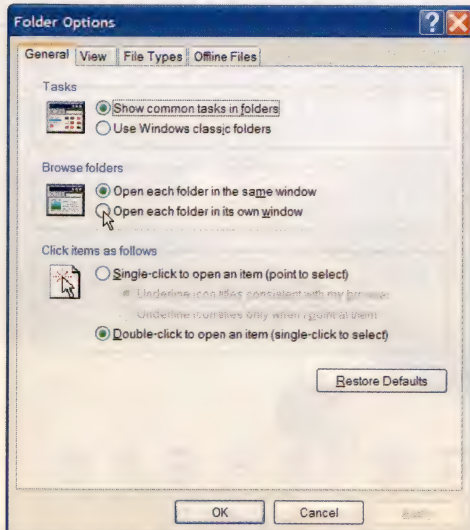
If you have RAM to burn — theoretically at least 256MB, but practically at least 1GB — you can speed up Windows XP by loading the entire kernel into RAM. This is much faster than the default scheme that uses the Windows paging executive functions to swap bits of Windows in and out of RAM. To change this:

- 1 Click Start → Run, type **regedit** and press Enter.
- 2 Browse to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management and double-click DisablePagingExecutive in the right pane.
- 3 Type **1** in the 'Value data' field and click OK. (Type **0** to put things back the way they were.)

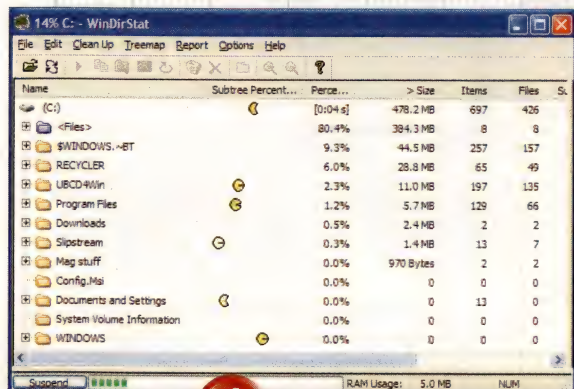
Warning: don't be misled by the SessionManager key (no space between 'Session' and 'Manager'), which follows immediately after the 'Session Manager' key.

PERPLEXING PROPERTIES

If you log on as a member of the Administrators group, open 'My Computer' or 'Disk Management' and right-click any drive and select Properties → Hardware tab, you get a list of all the storage devices on your PC, including hard disks, floppies, optical drives and USB flash drives. If you select a device and click the Properties button, this gives the same Properties sheet you get from the 'Disk drives', 'Floppy disk drives', 'DVD/CD-ROM drives' or 'Universal



stepbystep GET STARTED WITH WINDIRSTAT

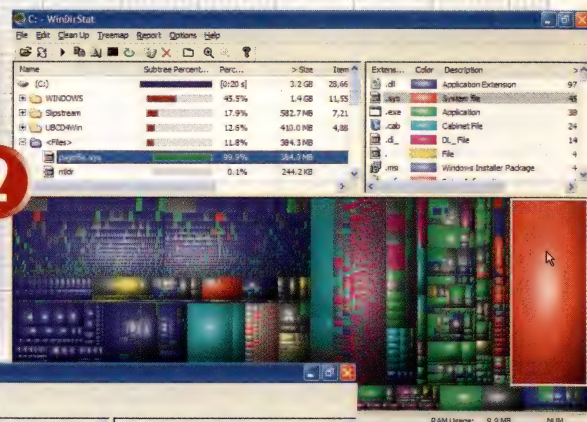


1

Start WinDirStat, select the folder or drive(s) and wait while the software scans.

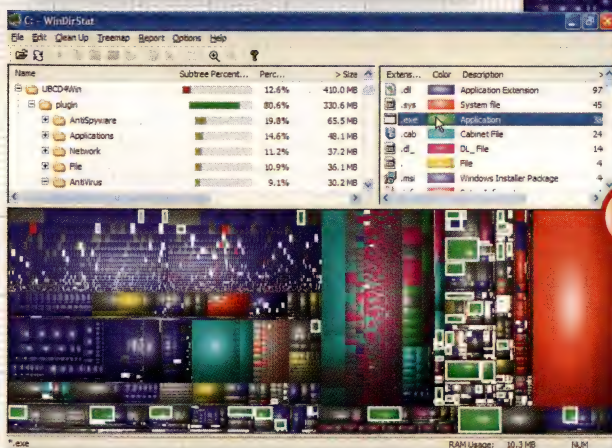
The large red rectangle at the right in the lower window represents the most disk space used. This is occupied by the paging file (Pagefile.sys), so you shouldn't attempt to mess around with this from WinDirStat.

2



Another big file is the main AVG executable. Normally you wouldn't delete such a file, but if you wanted to, either press Delete or click Cleanup → 'Delete (to Recycle Bin)'.

3

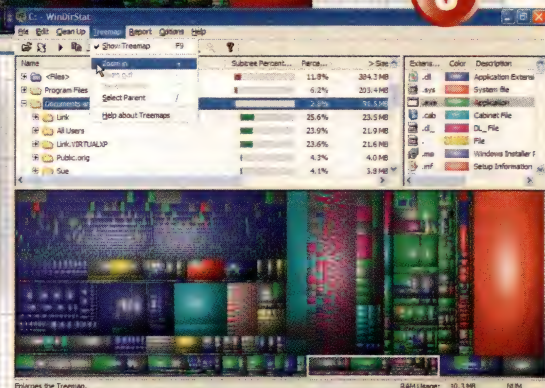


4

Click a filename extension to identify all files of that type in the treemap.

Click on a folder to identify it on the treemap. Then click Treemap → 'Zoom in' to have a closer look.

5



Serial Bus controllers' tree in 'Device Manager' when you right-click a device and select Properties. This is potentially confusing if the device is a hard disk because the information doesn't apply to the drive you just right-clicked in 'My Computer' or 'Disk Management'. Instead, it applies to a physical hard disk that may or may not contain the drive displayed in 'My Computer' or 'Disk Management'.

_REGISTRY RESCUE

If you're comfortable editing the registry, but know someone who isn't that needs a registry hack, it's easy for you to come to the rescue.

- 1 Click Start → Run, type **regedit** and press Enter.
- 2 Browse to the registry key that needs changing, right-click it and select Export.

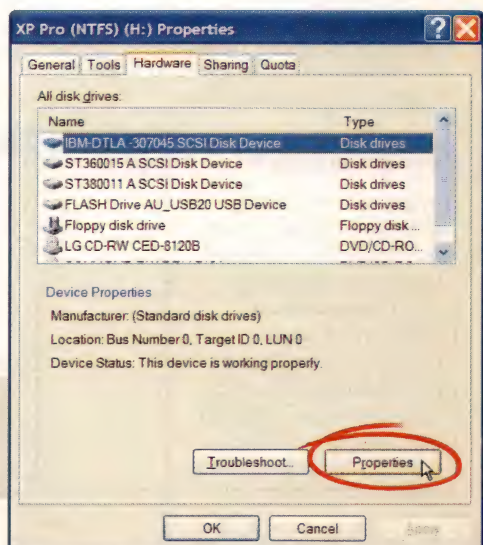
Type in a name such as **Put things back the way they were** and click Save.

- 3 Edit as required, right-click the same key again and select Export. Type in a name such as **Change the registry** and click Save.

Double-clicking the .reg file you made in step 3 will hack the registry. If the hack creates problems, double-clicking the .reg file you made in step 2 will change things back to the way they were originally.

Now you can email the two files to your mate, along with the above explanation of how to use them.

The Properties sheet you get applies to the hard disk selected, not the drive you right-clicked [displayed in title bar].



_SORT OUT 'SEND TO'

You can display a partial list of possible destinations for copying a file, folder or shortcut by right-clicking it and selecting 'Send To'. Types of destinations can include local or network drives, folders (both normal and compressed) and printers, applications, the desktop (as a shortcut) or email recipient (as an attachment). If you click Start → Run, type **sendto** and press Enter, this will open the SendTo folder, which contains the contents of the 'Send To' menu. There you can easily prune the list by deleting an item or add to it by dragging a shortcut there. For instance, if you prefer to use Briefcase rather than Tools → Synchronize in 'My Computer':

- 1 Right-click the desktop and select New → Briefcase.
- 2 Right-drag the Briefcase icon to the SendTo folder and click 'Create Shortcut Here'.
- 3 Select the shortcut, press F2, delete the phrase 'Shortcut to' and press Enter.

'SEND TO' FOR OTHER USERS

If you're logged on as a member of the Administrators group, you can modify the contents of the 'Send To' menu for other users. It's more complicated than typing **sendto** into a Run box, though.

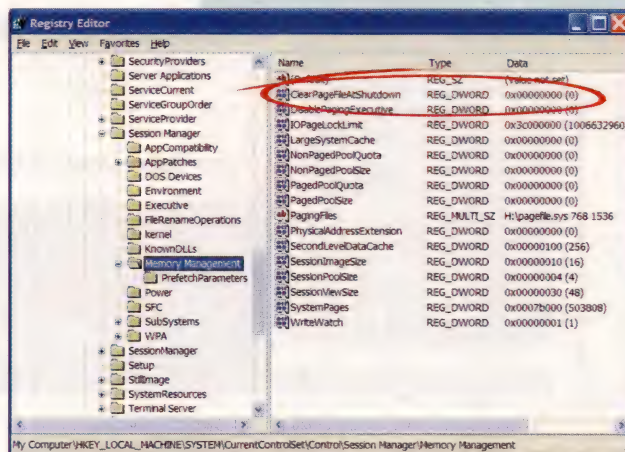
- 1 Open 'My Computer' and click Tools → 'Folder Options' → View tab.
- 2 Click 'Show hidden files and folders' (if it's not already enabled) and click OK.
- 3 Browse to the folder C:\Documents and Settings\username\SendTo, where C: represents the drive where Windows is installed and *username* represents the name of the user for whom you want to modify the 'Send To' menu.

From here on the procedure is the same as in the previous tip.

_SPEED SHUTDOWN

In the current security-conscious climate, some users have XP configured to clear the paging file when Windows shuts down, which wipes everything from the part of your hard disk used by virtual memory. Although this may be a sensible move if you regularly work with sensitive data that

The SendTo folder is where you edit the contents of the 'Send To' right-click menu.



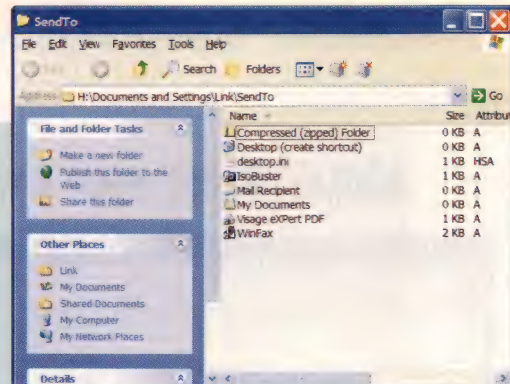
you wouldn't want unauthorised people to access, for most home users it's unnecessary. Moreover, Windows halts the shutdown process while the virtual memory is being deleted, so this makes it take longer to shut down. To speed the shutdown process without clearing the paging file:

- 1 Click Start → Run, type **regedit** and press Enter.
- 2 Browse to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager\Memory Management and double-click ClearPageFileAtShutdown in the right pane.
- 3 Type **0** in the 'Value data' field and click OK.

Warning: in step 2 you want the 'Session Manager' key (with spaces between 'Session' and 'Manager'), not the SessionManager key that follows immediately after it.

_MANAGE BIG FILES

As every PC user can testify, the more you use your computer the less free space you end up with on your hard disk. Although regularly running Disk Cleanup (Start → 'All Programs' → Accessories → 'System Tools') can help clear out some rubbish, this utility doesn't let you know about large files that may be hogging huge amounts of disk space. That's where freeware WinDirStat



Make XP shut down faster by changing ClearPageFileAtShutdown from 1 to 0.

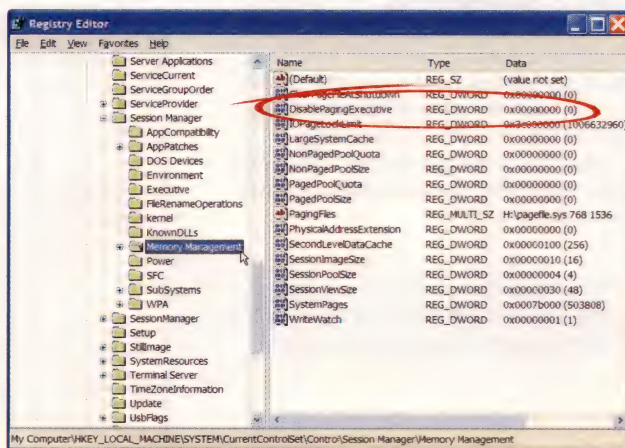
(Windows Directory Statistics), from <http://windirstat.info> or this month's cover disc, comes to the rescue.

Focused on file size and percentage of available space used, the program scans a specified folder, specified drive or all drives, and presents a Windows Explorer-like display sorted by disk space used. To the right is a colour-coded display of filename extensions (.bat, .exe and so on), similarly sorted, which gives statistics by extension. The bottom window displays the treemap. This is a graphical interpretation of disk space usage, with each file represented by a rectangle and colour-coded by filename extension. This lets you quickly identify fatcat files, as shown in step 2 of the guide on page 45. (Note that this display represents a file as a single rectangle when the file may actually be distributed over the disk.) Clicking on a rectangle in the treemap and clicking 'Clean Up' gives options ranging from opening Windows Explorer or a 'Command Prompt' window to deleting the file.

The three WinDirStat windows are coupled so that, for example, clicking the rectangle in the treemap which represents a file also selects the corresponding extension in the extensions display, and the file itself in the Explorer-like display. Similarly, selecting a drive, folder or file in the Explorer-like display produces a corresponding square in the treemap and, if a file was selected, the extensions window would highlight the corresponding extension. If you click an extension, this puts squares around all files with that extension in the treemap display. Once one or more squares appear in the treemap display, the Treemap menu will let you select the child or parent, or zoom the display in or out.

The WinDirStat help files are very good, but be warned that setup doesn't create a restore point. Be sure to do this manually before installing WinDirStat (Start → 'All Programs' → Accessories → 'System Tools' → 'System Restore').

Make XP run faster by changing DisablePagingExecutive from 0 to 1.



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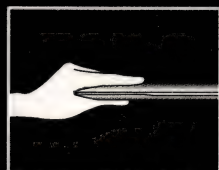
MSI recommends Windows Vista® Home Premium

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Linux

By Ashton Mills



_ MAKE UBUNTU FASTER

Ubuntu is already pretty slick, but there are some easy ways to give it a boost. Re-profiling the boot process can help improve boot times, for example. This provides the most benefit if you've installed and uninstalled many programs or changed the configuration of your system. Ubuntu profiles the boot process the very first time it's installed, but not thereafter unless you tell it to.

- 1 Reboot your machine.
- 2 If you have an Ubuntu-only system, press Esc when GRUB prompts you to do so and you'll be taken to the boot menu screen. Dual-boot Linux/Windows systems will do this by default.
- 3 Select the boot you usually use and press E to edit the profile.
- 4 Scroll down to the line beginning with **kernel** and press E again to edit it.
- 5 At the end of the line, add the word **profile** and press Enter.
- 6 Press B to boot.

Ubuntu will then boot as usual and create a new boot profile. This will take a little longer than a normal boot, but will help subsequent booting. The 'profile' flag is automatically removed, so you don't have to do anything else.

_ PRELOAD YOUR APPS

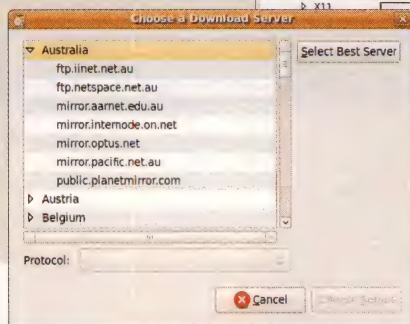
Preloading is one of the simplest and most effective Ubuntu tweaks, though we'd recommend you have at least 1GB of memory in your machine before trying it. First, install the preload application by opening up a Terminal (Applications → Accessories → Terminal) and running the following command: **sudo apt-get install preload**. It will automatically be added to your bootup processes and will preload your most commonly used applications to enable super-fast program loading. It intelligently looks at the programs you use and determines which ones to preload and how many, based on your available memory. Its benefits improve after you've been using your machine a while and it learns which programs you use most often.

_ FREE UP DISK SPACE

There are a number of ways to free up disk space, with the most obvious being to empty your trash can every now and then. However, there are a few other space savers we commonly use, too.

First, you can uninstall any unneeded languages. By default, Ubuntu installs language code pages for a wide variety of

Ubuntu's Disk Usage Analyzer is a great way to track down files and folders that are consuming lots of disk space.



With Update Manager, you can manually select which server Ubuntu downloads its updates from.

languages, most of which you're unlikely to use. To remove these, open up a Terminal and run this command: **sudo apt-get install localepurge**. During installation you'll be asked to select your default languages; be sure to select at least 'en_AU' and 'en_US'. Then, remove the unused language code pages with **sudo localepurge**. Additionally, when new programs are installed, unnecessary language code pages will be automatically removed.

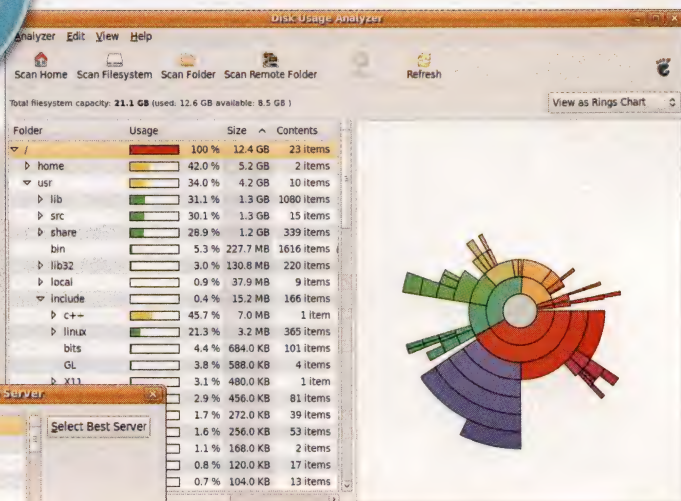
Secondly, there are two simple commands you can regularly perform — and which Ubuntu Tweak (see the box opposite) includes via its package cleaner function — to remove packages that are no longer needed and empty the package cache, respectively:

```
sudo apt-get autoremove
sudo apt-get clean
```

Finally, if you're still looking for more space to free up, you can find out which directories and files are hogging the most space on your system using Ubuntu's visual disk space analyser at Applications → Accessories → 'Disk Usage Analyzer'. Click 'Scan Filesystem' and wait while it maps your drive, after which you'll be able to drill down through directories and use the visual map to determine where the space hogs are.

If these are your own files (such as leftover ISO images, movie and music files,

Swiftweasel is a specially compiled version of Firefox that's optimised for faster performance.



and so on) you'll know where they are and what to delete. If the space hogs are in directories like /lib or /bin, don't delete anything — these are installed programs you'll need to remove properly with **apt-get** or the Synaptic Package Manager. Alternatively, an easy way to see all your installed programs is to click Applications → 'Add/Remove' → All to ensure the filter applies to all programs, then set Show to 'Installed applications only'. You can then remove any programs directly from here.

_ SURF WITH SWIFTWEASEL

Granted, browsing isn't the most taxing application your computer can perform, but as the competitiveness between Microsoft,



Mozilla, Apple and Google shows, there's a big emphasis on speed for browsers, largely with how quickly they can render a page.

Speed isn't just about the program itself, but also how it's been compiled. Swiftweasel is a CPU-optimised version of Firefox, tailored specifically for AMD or Intel CPU systems in 32-bit or 64-bit flavours. As it is essentially Firefox, everything you use under Firefox also works with Swiftweasel, only a little snappier. If you'd like to try out a supercharged Firefox, head to the Swiftweasel homepage at <http://swiftweasel.tuxfamily.org>.

_SPEED UP UPDATES

Whenever you grab updates using Update Manager, or install new programs from the Ubuntu repositories, they're downloaded from a mirror, either in the US or Australia. By default, Ubuntu selects local mirrors based on your time zone when you installed it, so it should already be using an Australian mirror. However, whether that mirror is the fastest for you (and your ISP) is definitely worth double-checking.


To see the available options, click System → Administration → 'Software Sources' and then, even if 'Download from' says 'Server for Australia', click the drop-down box and select Other. From here you can choose any local server you want, one of which may be hosted by your ISP. Alternatively, click the 'Select Best Server' button and Ubuntu will attempt to work out the best server for you, based on ping.

_UPDATE YOUR IDS

It's not very well known, but the ability of your Linux machine to put names to hardware is in some cases defined by files containing all known hardware components and their associated IDs. Every Linux distribution ships with these by default (Ubuntu included) in order to correctly identify the make and model of a particular PCI network card, or a USB key when you insert it into the machine, for example. This database of hardware remains the same until you install the next version of a distribution or you update them yourself. To do so is as easy as bringing up a Terminal and running the following commands:

```
sudo update-usbids
```

```
sudo update-pciids
```

Both are scripts to automatically fetch the latest versions of the ID files. If you want to stay up to date, we'd suggest running them about once a month. 

Ubuntu Tweak provides a host of settings tweaks and options, letting you easily customise Ubuntu to your liking.



Using Ubuntu Tweak

There are many handy tweak programs for Windows that allow you to play with some of the under-the-bonnet settings, and the equivalent for Ubuntu is the aptly named Ubuntu Tweak. While still in development, it provides a host of options for changing settings not present in the default Ubuntu dialogs. You can grab Ubuntu Tweak from <http://ubuntu-tweak.com/downloads>. Download the 'Deb package for all' file and save it to your desktop. To install it, simply double-click on the .deb package. Once installed, you'll find Ubuntu Tweak under Applications → 'System Tools'. There's plenty to play with and explore, but here are some recommended tweaks to get you started.

Applications

- * Use the Applications → 'Add/Remove' tab to find and install popular applications. These are all in Ubuntu's repositories already, but it's a good list to highlight programs you might not know about. Some programs you might want to check out here include Deluge, Exaile, Miro and VLC.
- * The Applications → 'Third-Party Sources' feature allows you to add new repositories to your package archive. The sources provided include a range of popular programs that aren't normally available from the Ubuntu repositories. You might want to check out Wine, Skype, GNOME Do and VirtualBox. First click Unlock to access the list and once you click on a source to add, click Refresh to update your local database. To install the program, either search for it from Ubuntu's Applications → 'Add/Remove' dialog, or close down and restart Ubuntu Tweak, and it should show up in the Applications list.
- * The package cleaner can help you recover disk

space by first removing any unnecessary packages that have been installed and are no longer used, and then deleting cached package files (every program fetched by Synaptic, or when updating, is stored in case it's needed at a later date). Both are safe to use and handy if your Ubuntu boot is short on space. For either, first Unlock the dialog, then select the items to remove and click Clear.

Startup

- * Reducing unnecessary startup applications is one way to improve the performance of Ubuntu, and you can add or remove startup programs here. This is simply an easier interface to Ubuntu's 'Startup Programs' dialog at System → Preferences → Sessions. To tailor startup services, check out System → Administration → Services.

Desktop

- * Previous tweaks we've covered in our monthly Linux column include adding a 'Computer and Network' icon to your desktop, much like Windows, to make it quicker to access drives and networked computers. Ubuntu Tweak now makes setting this up a breeze. Under the Icons section, you can not only place this icon on the desktop, but rename it if you want to as well.
- * The GNOME section allows you to tweak some lesser-known features, like replacing the Ubuntu start menu icon with one of your own, or choosing where the notification daemon displays notices.

System

- * The File Type Manager is an easy one-stop shop for managing file associations in Ubuntu. It's handy if you've accidentally assigned a different program than the one you want to a particular file type.
- * The Nautilus section allows you to tweak a few settings for the Nautilus file manager, including enabling BURN-Proof for CD burning and clearing the Thumbnail cache to free up disk space.



The File Type Manager lets you quickly change which program opens which type of file.

Running too many apps at startup can reduce performance, so we suggest removing those you don't use frequently.



Hardware

By Darren Yates

175
EXPERT TIPS

_POWER CONSUMPTION

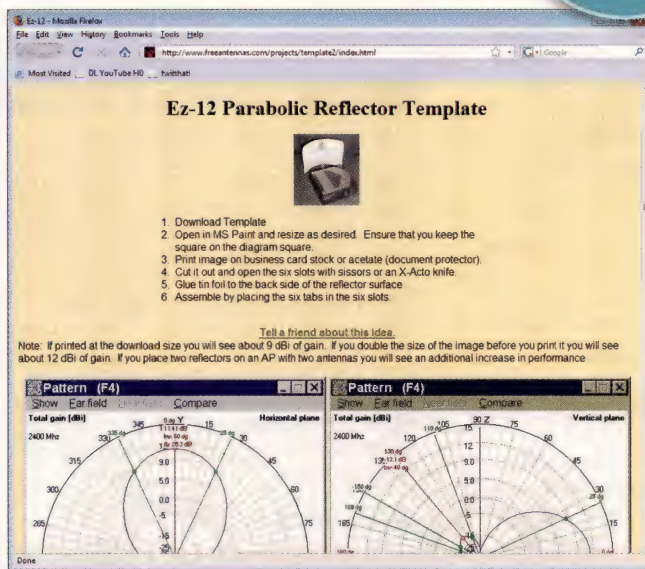
You're no doubt aware that the price of electricity is due to jump significantly in the next year or so; in some cases, it will even double in cost. It's time to look at just what technology gear you've got running and how you can lower your power costs.

* **Drop LCD screen brightness.** A significant portion of electricity consumed by an LCD monitor (or TV for that matter) is used just to keep the backlight powered up. By simply lowering the brightness of your screen, you can save as much as 10-20W total, or around half the screen's power consumption.

Here's proof: at 100% brightness (the level most LCD monitors are shipped at), my own LG L192WS 19in widescreen LCD monitor consumes 32.5W. By dropping that down to 0% brightness (which doesn't mean 'off', but gives more than enough light to see in any normal room setting), the power consumption was reduced to just 14.8W — that's a drop of more than half! If left on for 12 hours each day, you'd save about \$20 a year on your power bill from this one bit of gear alone.

* **Don't leave your computer gear running overnight.** This is a big issue in the corporate world, where many PCs are still left on after workers go home. Some suggest that turning the PC on and off each day will create wear-and-tear issues. That's basically rot — the amount of time the PC is actually switched off can be as much as 12-14 hours a day, and that's a significant win for the life of any technology gadget. If you're only leaving something on for 15 minutes then yes, turning it off is a bit of a waste; however, if you're going to be gone overnight, we'd definitely switch it off. Turning your computer off for 12 hours a day instead of leaving it on all the time could save you up to \$150 a year.

* **Don't use battery power if you don't have to.** Most technology is designed to run on batteries, but don't think you're saving power by doing so. You're not. It takes around 1.6 times the amount of electricity to recharge



A DIY antenna will help boost your Wi-Fi signal.

you overclock your PC at your own risk, the process can be done in just a few steps, although you should keep your PC motherboard manual handy for reference.

- 1 Boot up into the BIOS and move to the CPU/memory control section.
- 2 If you have a 2.5GHz Pentium

a battery of a given capacity, so it's actually going to be more efficient to use the AC mains power if you can.

* **Screensavers are not power savers.** Leaving your computer to run in screensaver mode is not some secret power-saving technology. In fact, your computer is simply working to keep that screensaver moving around, using the same (if not more) power than it would if you were actually using it. So turn off your PC or notebook screensaver. If you're going to leave your notebook or PC running for so long that burn-in could really become an issue, switch the thing off.

_EASY OVERCLOCKING

The latest Intel processors, particularly the cheaper models, make overclocking dead simple. While I must include the caveat that

Dual-Core E5200 processor, increase the frontside bus (FSB) to 266MHz.

- 3 Ensure the CPU voltage setting is on Auto.
- 4 Make sure the CPU/memory ratio setting is such that the speed doesn't go past the memory's speed rating (with our example FSB of 266MHz, a 1:1 ratio should do it for DDR2-667 memory or faster).
- 5 Save the settings and reboot.

This overclock will jump your Pentium Dual-Core E5200 up from 2.5GHz to 3.33GHz. With this CPU, that's a pretty conservative overclock. So far, we've been able to push the FSB on every E5200 processor we've seen in our 'Best-value PCs' review systems to 320MHz using the stock Intel CPU fan/cooler — that brings the overall CPU clock speed to 4GHz. However, even just the jump to 3.33GHz is a 33% speed boost, and one that'll cost you nothing, plus it will put far less strain on the CPU than trying to push it to 4GHz.

_MAKE INK TANKS LAST LONGER

If you want your spare printer ink tanks to last longer, try keeping them in a zip-lock bag in the bottom of your fridge. Many people swear by this for getting longer shelf life. This is

Overclocking warning

While we've verified that these steps work using numerous test PCs, we cannot guarantee that it is perfectly safe for every system. Overclocking can also void your warranty, so you use this tip at your own risk.

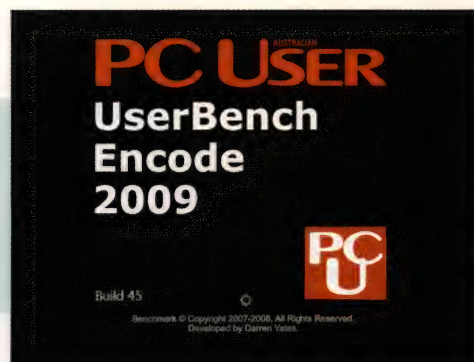


You may be able to get by with a substitute power brick, provided it has the right voltage and polarity.



Older burners are unlikely to burn newer DVDs at full speed.

Our UserBench Encode 2009 benchmark will test how fast your system really is.



less likely to work with ink tanks that have already been opened, but it's well worth a shot, especially if you're paying top dollar for name-brand cartridges.

BURNING DVDS IN OLDER DRIVES

As we found out last month in our DVD media tests, older DVD burners are unlikely to burn newer DVD-recordable brands at full speed, even if both the drive and the media can burn at 16x. Firmware updates from your drive manufacturer's web site are required for much of the new media arriving these days. But while these can help, eventually the updates dry up. For that reason, owners of older drives will often need to stick with mainstream brands to ensure maximum compatibility — that means brands such as Verbatim, TDK and Sony.

BEWARE THE GEFORCE GTS 250

Graphics card vendor Nvidia isn't winning any friends of late with its new GeForce GTS 250. If the specs look familiar, that's because the GTS 250 is just a slightly faster version of the previous-generation 9800 GTX+. Both cards use the same chip, with the same stream processor count and the same general

features. What doesn't help is that the 9800 GTX+ was already an oldish chip: it's almost the same one Nvidia used in the GeForce 8800 GTS, a card released back in late 2007. The only changes since that original graphics card has been a die shrink and a clock speed increase. If you really want a serious speed update, you'll need to consider a GeForce GTX 260 or better, or go with an ATI Radeon HD 4870 instead.

HAVE YOU GOT ENOUGH MEMORY?

This won't be a problem for newer systems, but many older computers (when memory was more expensive) don't have enough memory to run their chosen operating system properly. Here's a quick guide to the amount of memory your computer should have:

- * Windows 98: 256MB minimum, 512MB optimum
- * Windows 2000: 512MB minimum, 1GB standard, 2GB optimum
- * Windows XP: 1GB minimum, 2GB standard, 3GB optimum
- * Windows Vista: 2GB minimum, 3GB optimum

Having an optimum level of memory will ensure your hard drive has less swap file work to do and help to prevent it from failing prematurely.

CHOOSE THE SIX-CELL BATTERY

If you don't quite understand the difference between a three-cell and six-cell battery, here's a simple way to think about it: the more cells, the longer it will last.

Three-cell batteries typically last less than two hours in most notebooks and often as little as 90 minutes in the more power-hungry models. Six-cell batteries last up to four hours in many netbooks and typically three hours in most standard notebook computers. If doing your computing on the go is

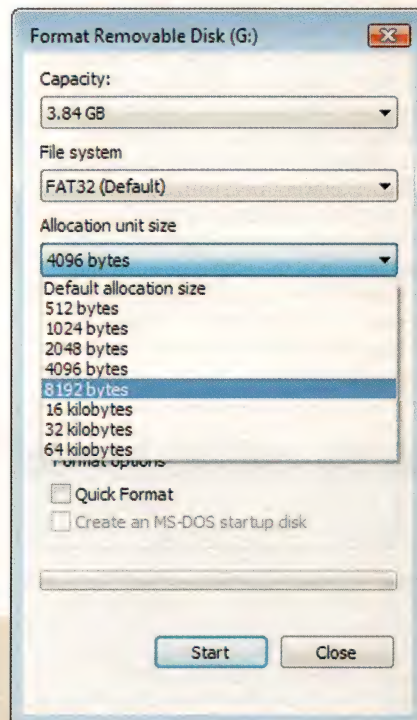
important, remember to look for a six-cell battery, rather than a three-cell model.

If the vendor can't tell you whether the battery has three or six cells, look at the milliamp-hour (mAh) capacity. Three-cell batteries are typically rated at around 2,200-2,400mAh, while six-cell batteries are rated at between 4,400 and 5,200mAh.

MAKE YOUR USB DRIVE FASTER

We've been doing quite a bit of experimenting with USB flash drives of late and we've found that Windows Vista doesn't really get the formatting right on today's drives. Even if you're just formatting with FAT32, using an 8KB allocation unit size instead of 4KB can add as much as 25% to the write speed of the drive.

Reformatting a flash drive is simple, but be warned that the process will erase all your data, so back it up first. Then, open Windows Explorer, right-click the flash drive you want to format and select Format. When the next window appears, set the 'Allocation unit size' to 8KB, click the Format button and away you go. You'll see the greatest speed improvement when writing large files (such as video or



Changing the allocation unit size of you USB key can make it run faster.

audio files) to the drive. We'll look into this in more detail next month.

_IS YOUR TV OBSOLETE?

There's recently been a bit of a kerfuffle over a Melbourne newspaper story that suggested the arrival of Freeview meant that every TV, including the latest plasma and LCD models, would be obsolete. Thankfully, it's all bollocks. As near as we can tell, Freeview is just a marketing campaign to promote the five Australian free-to-air TV networks. Unfortunately, the newspaper story wrongly suggested that all TVs would be obsolete by now; however, no doubt you're still enjoying the free-to-air digital TV available.

At some point in the future, the free-to-air networks may decide to introduce MPEG-4 compression (and Freeview-branded TVs and DVRs must support this video format), but that's a long way off. If it does come in, any MPEG-4-capable digital set-top box will work to watch these broadcasts. So, if you read that your new \$5,000 LCD TV is obsolete, ignore it — it's just a load of old codswallop.

_LOST POWER BRICK

It can be really frustrating when you lose your notebook power brick, because it basically means the end of your notebook until you get a replacement. However, here's a trick that should get you by in the meantime, provided you work in an environment where notebooks are common.

First up, before you lose your power brick, write down the power rating. You need to note three things: the DC voltage, the rated DC current output and the polarity of the plug that connects into your notebook.

Typically, most notebooks use an 18.5 or 20V DC power brick, with a power rating of 3.42-4.74 amps. The polarity of the plug is usually 'tip-positive', which means the inner section of the plug is positive and the outer 'ring' is negative. Be warned: inserting a plug with the wrong polarity can fry your notebook, so make absolutely sure it's the right type.



Don't accept Vista's default option when formatting USB keys.

The four key things you need to look for in a substitute brick are:

- ❶ A power plug with the same polarity as the notebook power socket.
- ❷ A power plug that fits the notebook power socket.
- ❸ A DC output voltage that matches the notebook's requirements.
- ❹ A DC output current rating that matches or exceeds the notebook's requirements.

Match all those four things and it should work a treat. (I use this trick quite often in *PC User Labs* when I have a swag of notebooks and don't want 100 power bricks lying around.)

_GOOD SCORES ON ENCODE 2009

We've had a few questions from readers about what sort of scores you should expect to see from our exclusive UserBench Encode 2009 benchmark, released on the February 2009 cover disc. Here's a rough guide to what we've found so far from non-overclocked systems.


- * Intel Atom N270: 8.0-8.2
- * 3GHz Intel Pentium 4: 13-15
- * Intel Pentium Dual-Core E5200: 35-37
- * Intel Core 2 Duo E7300: 40-42
- * Intel Core 2 Duo E8400: 43-45
- * Intel Core 2 Duo E8500: 45-47
- * AMD Phenom X4 9850: 36-38

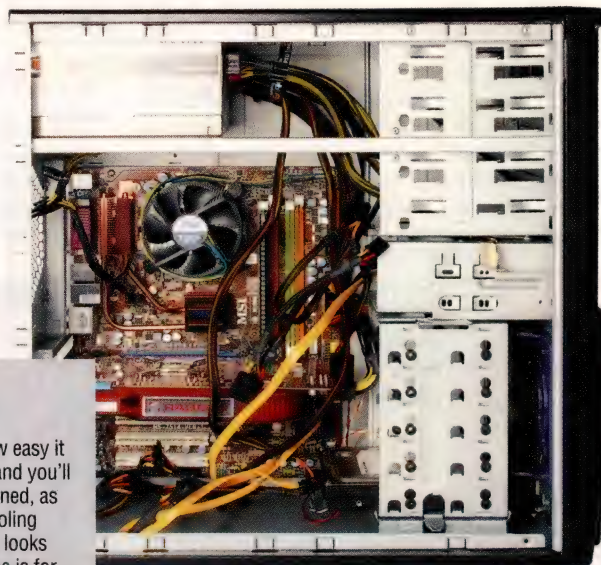
_QUICK DIY WI-FI EXTENDER

Not enough range is one of the most common complaints about most Wi-Fi routers. That's basically because radio waves and walls don't usually mix too well. It turns out you just need to raid your stationary box and kitchen cupboard to rig up what is being hailed as a surprisingly useful directional antenna.

You'll laugh when you see it, but the theory is sound enough — all you need is a pair of scissors, an A4 manila folder, some glue and some aluminium foil. You can watch a video on how to do it at <http://revision3.com/system/surfer/> and you can download the plans at www.freeantennas.com/projects/template2/. It looks like it can't possibly work, but it can increase the signal by up to 9dB, which is enough to turn a bad Wi-Fi connection into a passable one, and a passable connection into a very good one. So don't knock it until you've tried it!

_RUNNING LOW ON INK

It sounds bizarre, but if your printer's ink cartridge is nearly empty, it's worth giving the old hairdryer a shot. I've read this one online at a number of places and the people who've tried it swear by it. The idea is that as an inkjet cartridge gets towards the end, it's mainly left with dried ink blocking up the nozzles. Take the cartridge out of the printer and using a hairdryer on medium setting, gently heat the cartridge for a minute or two, then drop it back into your printer. The heat apparently helps unblock the tiny nozzles, allowing you to get a little more ink out of the cartridge — possibly enough to finish your print job. 



Be careful when tidying up cables inside your PC. You may be doing more harm than good.

Keep cables loose

Over the years we've seen PC builders attempt to improve the look of their build quality by tying back all the internal power and data cables into tight, neat little bundles. However, while it certainly looks good, we've found that sometimes these same PCs have trouble starting because the inevitable bumps that come through transportation often cause a connector to pop out of a socket. This is due to nothing more than too much strain being placed on the cable through the use of cable ties.

Just tug on a SATA data cable and see how easy it is to pop one off the back of a hard drive and you'll see what we mean. As far as we're concerned, as long as there are no cables fouling any cooling fans, it doesn't matter if the inside of a PC looks a bit like a rat's nest — that's what the case is for. If you want the inside to look neat, that's fine, but go easy on the cable ties and don't put undue strain on any plug/socket connection. You don't really need to tie every cable to within an inch of its life.

GIGABYTE™

10%-30%
**Overclocking
Capability**

10%-30%
**Power
Switching
Loss**

5%-10%
**GPU
Temperature**

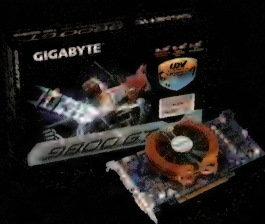


Ultra Stable, Ultra Cool

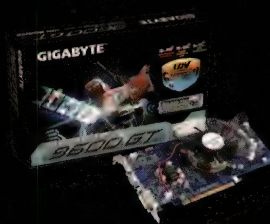
Quality Components Make Best Graphic Cards



GV-N250OC-1GI



GV-N98TOC-1GI



GV-N96TZL-1GI



GV-N96TSL-1GI

Internet

By Rose Vines



_ STOP DISK THRASHING

Firefox 3 is supposed to reduce the browser's memory leaks and improve performance, but some people experience the opposite. A not infrequent problem is disk thrashing: frenzied disk access that may continue for minutes, bringing the browser to a standstill. There are a few things you can do if you suffer from this problem:

1 In Firefox, click Tools → Options → Security and remove the ticks beside 'Tell me if the site I'm visiting is a suspected attack site' and 'Tell me if the site I'm visiting is a suspected forgery'.

2 Increase the idle time between 'frequency' updates:

a. Type **about:config** in the address bar and press Enter.

b. Click the 'I'll be careful, I promise' button to gain access to Firefox's preferences.

c. In the Filter box, type **places.frequency.up**. The list of preferences will be whittled away to just one: **places.frequency.updateIdleTime**.

d. Right-click the setting and select Modify.

e. Increase the value from the default of 60,000 milliseconds (also known as one minute) to something a whole lot bigger, say, between 600,000 and 1,800,000. Don't include the commas when you type the new value.

f. Type **places.frequency.num** in the Filter box, right-click **places.frequency.numCalcOnIdle** and choose Modify.

g. Reduce the value for this preference from the default 50 to something around the 5 to 15 mark.

You'll quickly be able to see which preferences you've adjusted when you look at the full list as they'll be displayed in bold text.

_ READ THE WEB

Here's a novel idea: a tool to make web pages readable. What with advertisements, pop-ups, Java fly-bys, sidebars, video clips and trendily minuscule typefaces, a large number of web sites appear to be on a mission to make their content as unreadable as possible.

If your brain doesn't have the multitasking and noise-filtering abilities needed to extract meaning from within such a hubbub, give Readability a try. Visit <http://lab.arc90.com/experiments/readability> and establish your settings — font size, content width and page style — then drag the bookmarklet onto your browser's bookmarks toolbar and head off onto the web. When you come across a page you'd like to read rather than experience, click the Readability bookmarklet and bingo, the distractions will be filtered out and you'll

_ TOP TIP

Down for everyone?

When you come across a web site that appears to be unavailable, drop by the self-evidently named <http://downforeveryoneorjustme.com> to check whether the site really is down or the trouble is at your end. Simply type the web address in the box and click 'or just me?'

be left with clean, clear, deliciously readable text. It doesn't work all the time, but when it does, it provides a reading oasis.

_ CHROME COMIC BOOK

Google's Chrome browser comes with one of the most in-depth and interesting pieces of documentation around. It's the Chrome Comic Book (www.google.com/googlebooks/chrome), which digs into the background of the Chrome project and the underlying technology. It's a fascinating and easy read for anyone who wants to know a little more about what's under the bonnet.

_ THE SOCIAL BROWSER

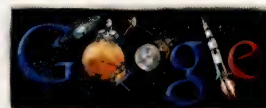
Ripples from the current world wide economic woes are appearing on the web. Or rather, disappearing on the web. A number of Web 2.0 startups have closed their sites and the flood of online apps we've been witnessing over the past 18 months has petered out. That makes apps that have reached the ripe old age of three, such as Flock, look like pretty safe bets.

Flock isn't for the faint of heart nor the socially timorous. It's a socially aware



Take the time to explore all of Facebook's privacy settings. You may be surprised to learn how your information is being used.

Like Google's holiday logos? View the whole lot at www.google.com/holidaylogos.html.



browser that wraps a Firefox-based browsing engine in sidebars and headbars filled with tweetstreams, mediatreams and all manner of shared content. If you're into blogging, social bookmarking, Digging, Facebooking, Flickr, tweeting, YouTubeing or any of another half-dozen social pursuits, give Flock a try. It will act as a drag-and-drop hub for all your interactions and is available for free from www.flock.com.

_ M IS FOR MOBILE

When you're on the go, using your phone or portable device to access the internet, those beautiful sites filled with video and luscious graphics are the last thing you need. What you want is quick, cleanly delivered information. Many sites and services provide a version of their content designed specifically for low-bandwidth, limited-interaction devices. For instance, read the news or check the weather and scores at the ABC's mobile site, <http://m.abc.net.au>. You can get a mobile version of Google at www.google.com/m, the mobile Google calendar is www.google.com/calendar/m and Google Reader (for RSS newsfeeds) for those on the go is at www.google.com/reader/m/view. There's a mobile version of Twitter at <http://m.twitter.com>, Facebook is <http://m.facebook.com>, and you can browse



Play a game of PhotoSoup courtesy of Yahoo! and Flickr.

Flickr snaps on the go at <http://m.flickr.com>. Try <http://m.microsoft.com>, <http://m.digg.com> and <http://m.delicious.com>. You'll find plenty of others if you experiment.

— DRAG YOUR TABS

Tabbed browsing is one of the great advances in browser development, so it's no surprise that tabs are now *de rigueur* for all new browsers. Google's Chrome and Internet Explorer 7 and 8 display the tab bar automatically, but not all do. If you don't have the tab bar displayed, set your browser to display it automatically or use a shortcut.

* In Firefox, go to Tools —> Options —> Tabs tab and click 'Always show the tab bar'.

* In Safari, press Ctrl-Shift-T to display or hide the tab bar.

All the major browsers let you open a new tab by pressing Ctrl-T and switch between tabs by pressing Ctrl-Tab. You'll need to dig into the browser's options or preferences to select what is displayed when the new tab opens: your home page, a blank page or something else.

These browsers also let you drag your tabs around, so you can rearrange them with ease. Simply click and drag a tab from its current location to another on the tab bar. This is particularly useful when you have a lot of tabs open, but your attention is focused on only a few of them. Drag those tabs so they congregate up one end of the tab bar, while the other tabs remain open, but in the background.

Chrome, in which each tab runs in a completely separate process, also lets you drag a tab onto the desktop, where it will spring open in a separate Chrome window. Drag the tab back into the main browser window to 'reattach' it.

— ULTRA-SHORT URLS

Twitter's popularity has led to an eruption of URL-shortening services. For a long time, TinyURL was the main name in the game. Now there's bit.ly and ow.ly and is.gd and a number of others. Each of them takes a long web address and converts it to a much shorter string. This is essential when you need to limit your tweets, including any referenced URLs, to 140 characters, but it's just as handy for non-Twitterers who want to share URLs.

Many of these URL shorteners also let you create a more memorable, human-friendly shortcut. So you can take an address such as www.rosevines.org/blog/2007/12/11/in-bed-with-the-kindle-and-sony-reader.html and turn it into either <http://bit.ly/cfGfD> (the automated bit.ly shortened form) or a more memorable version, such as <http://bit.ly/kindleinbed>.

Online file backup

Dropbox is one of the easiest ways to back up your files online, share files between computers and share files with others. It works on Windows, Macs and Linux. A 2GB account is free and you can boost that to 5GB by referring others, or upgrade to a 50GB paid account. Sign up and grab the download from www.getdropbox.com and then install it on all your computers.



Dropbox syncs your files online and across computers

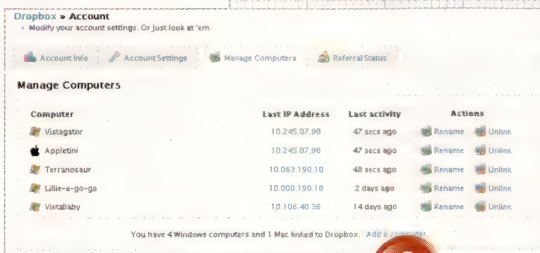
Download

Free for Windows, Mac, and Linux

Dropbox adds an icon to your system tray and creates a Dropbox folder within My Documents. Double-click the icon to open the folder. Drag files and folders into your Dropbox folder — Ctrl-drag to copy rather than move — and they'll be available in a surprisingly short time on all your linked computers. With small files, the process happens within a few seconds. A tick on a file icon indicates it has been shared successfully.



Toss files into the Public folder to make them accessible to others online via a link, or create shared folders with email-invited colleagues.



Dropbox lets you work with your files locally or via a clean (but by no means underpowered) browser-based interface.



— TOP TIP Firewall check

Have you tested your firewall lately? Steve Gibson's ShieldsUP! site will give it a good poke to see if there are any vulnerabilities. Go to <http://tinyurl.com/sovd> and see for yourself.

A number of these services also provide a bookmarklet. You drag this super-link onto your bookmark toolbar and then, whenever you display a page whose address you'd like to shorten, you simply click the bookmarklet.

One word of warning: URL shortening services, by their very nature, mask the actual address a link points to. This has been used, most particularly on Twitter, to lure people to malware or other unsavory web sites. Before you click on a shortie link, make sure you trust the source.

_ TWIMAILER

Twitter sends you an email each time someone follows you. And a really uninformative email it is, too. If you're gathering lots of followers, try Twimailer (www.twimailer.com). Twimailer provides you with a unique email address that you plug into your Twitter settings page. Once you've done that, all new 'follow' messages are delivered to you via Twimailer. At Twimailer, the original Twitter follow alert is fleshed out with the name, location, avatar and bio of the person trying to follow you, plus their last 10 tweets, before it's delivered to your regular email address. With a quick scan of the email you can decide whether they're worth following back.

_ TWEETDECK

If you're a serious tweeter, take charge of your tweetstream by installing Tweetdeck (www.tweetdeck.com), a third-party application that lets you divide your tweets into more manageable chunks. Tweetdeck looks a little overwhelming when you first take a look at it, but it makes the job of weeding out the noise from the rest of your tweets a lot easier. You organise your tweets into separate groups, each displayed in its own column, with direct messages in one column and @replies in another. You can add additional columns by selecting subsets of those you follow, using keyword searches and by using filters. The program includes automatic URL shortening, too. Tweetdeck is an Adobe Air application, so you'll need to install Air first (www.adobe.com/products/air).

_ TAKE YOUR CALENDAR OFFLINE

Google has been adding new features to its calendar on a regular basis. The latest is the ability to view your Google Calendar offline. This feature makes use of Google Gears, the browser add-on that also lets you do things such as read your Google Docs offline. To read your calendar offline, open the calendar (www.google.com/calendar) and click the Offline link near the top-right. You'll be prompted to download Gears if it isn't already installed, and to restart your browser. Once you do so, you'll see a tick beside your email address at the top-right. That tick indicates you're currently online; click it to check whether your online and offline calendars are



The World Wide Telescope brings the resources of telescopes from around the world into your home.

in sync, to adjust offline settings, to go offline, or to disable the offline calendar.

_ WHAT'S BREWING?

If you think betas are for the herd and you're looking for something truly cutting edge, dig around the laboratories of some of the bigger outfits on the internet. You'll unearth some weird and wonderful tools and ideas, and you'll even find downloads of pre-beta toys to play with.

Adobe: <http://labs.adobe.com>

Digg: <http://labs.digg.com>

Google: <http://labs.google.com>

HP: www.hpl.hp.com

IBM: www.research.ibm.com

Intel: www.intel.com/research

Microsoft Live Labs: <http://livelabs.com>

Microsoft Research: <http://research.microsoft.com>

Mozilla: <http://labs.mozilla.com>

Sun Microsystems: <http://research.sun.com>

Yahoo!: <http://research.yahoo.com/projects>

YouTube: www.youtube.com/testtube

_ PLAY A ROUND OF PHOTOSOUP

Yahoo! has some interesting items lurking in its research lab. For example, PhotoSoup creates a word puzzle using Flickr photo tags. Type in a tag at <http://photosoup.games.yahoo.com> and PhotoSoup pulls together a bunch of matching photos and then creates a find-the-word grid from associated tags. Say you use the tag **Central Australia**, the puzzle grid will contain words such as Uluru, Kata Juta, desert, landscape and so on, with the surrounding photos providing clues to each of the words.

You can also create a puzzle from your own Flickr photos by feeding PhotoSoup your Flickr screen name and then embed the puzzle on your web site for others to play.

WORLDWIDE TELESCOPE

Why restrict your search to the web when you can search the universe using Microsoft's WorldWide Telescope? Once you install the download (from www.worldwidetelescope.org), you can access guided tours to local and remote parts of the cosmos, or explore on your own. The program uses resources from telescopes around the world plus stock images to create the cosmic environment. The application does some heavy lifting, so you'll need a fairly powerful computer with a couple of gigs of RAM and a serious video card to enjoy it to the full.

_ SORT OUT YOUR FRIENDS

Let's face it, some Facebook friends are more friends than others. It can be hard to keep track of the people you love or like in among the status updates and posts from people who are merely friends of friends of friends of friends.

One way to sort the inner circle from the hangers on is to use 'Friends List'. Click Friends —> 'Make a new list' and start typing names in the 'Add to list' box, or click 'Select multiple friends' to quickly tick a list of friends. You can make as many lists as you like, sticking workmates in one, family in another, close friends in another, and so on. Once you've created a list, click the list name to view updates only from those in the list. You can also send a message to only those on a list by scrolling to the bottom of a list display and clicking 'Message this list'.

Once you've added some 'Friends Lists', you'll be able to focus on the feed from the people in a particular list by clicking Home and then clicking the down arrow beside 'Live feed'. A drop-down list will let you choose a particular list to view. ☺

NAKED ADSL2+

NEW

NO MORE LINE RENTAL

50GB*

= 25GB peak (8am-2am) + 25GB off peak (2am-8am)

\$59⁹⁹

per month

18 MONTH CONTRACT. \$79.95 SETUP FEE.

FREE IPTV

Add
MOBILE

\$300[#]

CALLS, TEXT & DATA

FOR

\$9⁹⁹

per month

**SPECIAL
OFFER[^]**

Once off \$20 SIM charges applies.

MOBILE

NO CONTRACT

\$1000[#]

CALLS, TEXT & DATA

\$49⁹⁹

per month

+ 1st 500MB DATA **FREE**

+ 20 minute TPG Mobile to TPG Mobile calls between 8pm & midnight **FREE**

Once off \$20 SIM charges applies.

WHY PAY MORE?

 tpg.com.au

13 14 23



NAKED ADSL2+: * Monthly download quota of 50GB Plan is 25GB Peak (8am-2am) and 25GB Off Peak (2am-8am). Speed throttled once Peak or Off Peak quota is exceeded. Naked ADSL2+ will cause all existing services using the copper line, such as telephone services or alarm monitoring, to cease functioning. Min costs over 18 month contract term: 50GB Ultimate Medium = \$1159.77 (incl. once off \$79.95 setup fee). Early termination fee applies. **MOBILE:** ^Bundle the TPG 49 Cap Saver with Naked ADSL2+ or ADSL2+ Ultimate and pay \$9.99 per month (after once off \$20 SIM charge) for the mobile service. If Naked ADSL2+ is suspended or terminated, monthly charge for 49 Cap Saver reverts to \$19.99 per month. # 49 Cap Saver and Premium Cap Saver respectively have \$300 and \$1000 worth of included eligible call types and data per month (Cap Inclusion). Standard rates apply for usage outside the Cap Inclusion. Excluded from Cap are: premium SMS, Optus Zoo services, Third Party content, International and 190 calls and other Enhanced Services. For full exclusions visit website. ~ Free calls between 8pm and midnight to any other TPG or Optus GSM mobile, every day, for the first 20 mins of each call. Mobile Fair Go policy applies. First 500 MB of Data download is free, excess data downloaded charged against Cap Inclusion or Deposit. Plan fee payable monthly in advance. Min costs: \$19.99 49 Cap Saver Plan = \$39.99; \$49.99 Premium Cap Saver = \$69.99 (incl. once off \$20 SIM charge), no contract term. \$20 deposit required for any excluded or excess usage. Deposit automatically topped up if it falls below \$5. Service barred if deposit topup payment fails. For full terms and conditions visit tpg.com.au.

Peer to peer

By Nathan Taylor



_BEST BITTORRENT CLIENTS

There are a number of BitTorrent clients available for free download, but the two we'd most recommend are µTorrent and Vuze. µTorrent is light, fast and very easy to use. Vuze uses many more system resources, however it has some cool extra features, such as browsable content and a built-in torrent search feature (with µTorrent, you have to find your own torrents on the web).

_PROPER BANDWIDTH LIMITS

By default, most BitTorrent clients are set to use unlimited upload bandwidth. That is, they will max out your upload connection if they can. If your ISP meters uploads this is particularly bad — but even if they don't this will have a negative effect on your performance, since the uploads will flood your connection and prevent your downloads from sending the command and control messages they need to.

It's a good idea to set your upload speed to no more than 70 or 80% of your maximum rate. For example, if your broadband connection has a maximum upload speed of 128Kbps (that's 16KB/s), then you should set your maximum upload rate to 12KB/s.

In µTorrent, you set your upload maximum by selecting Options → Preferences and then clicking on Bandwidth in the left panel of the Preferences window. In Vuze, it's Tools → Options and then select Transfer in the left panel.

| | Peak | Off Peak |
|------------------|--------------|--------------|
| Used | 14000 / 8000 | 11380 / 8000 |
| Downloaded | 14000 | 11380 |
| MB Excess | 6000 | 3380 |
| Days Remaining | 14 d 5 h | |
| MB/Day Remaining | 0 | 0 |

_MORE SEEDS ARE BETTER

In BitTorrent, seeds are important because they're the people who have the whole file and are still sharing it. Leeches are people who are downloading the file; they'll share the bits they have, but they may only have a small proportion of the file and they're often taking much more from the network than they give. In effect, a torrent with a high seed to leech ratio should be very fast. Lots of seeds are also often a good indicator of a good file. Poor files and fakes will often have few seeds, though there are some fakes that actually spoof the number of seeds to make it appear that the seed ratio is very high.

_READ THE COMMENTS

Before downloading a torrent from a web site, read any comments about the torrent beforehand. It's the easiest way to tell if a file is fake or bad.

Net Usage Item is a Firefox plug-in that grabs your monthly usage stats from your ISP and helps ensure you avoid the dreaded shaping or any excess charges.

_TURN ON ENCRYPTION

A number of ISPs detect the use of BitTorrent and slow down its internet traffic to save themselves

bandwidth. Encryption is designed to prevent this. (Note that it doesn't prevent copyright agencies from detecting the transmission of copyrighted files, so it's no defence if you're transmitting illegal files.) In µTorrent, you can turn on encryption in Options → Preferences → BitTorrent. In Vuze, it's Tools → Options → Connection → 'Transport Encryption' (you may have to click on Mode in the Options window first, however — this setting is only available in Intermediate or Advanced mode).

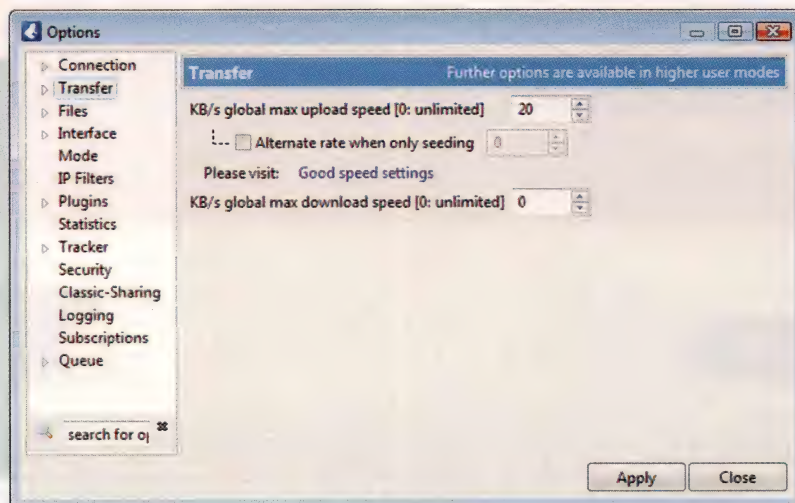
_TWEAK MAXIMUM CONNECTIONS

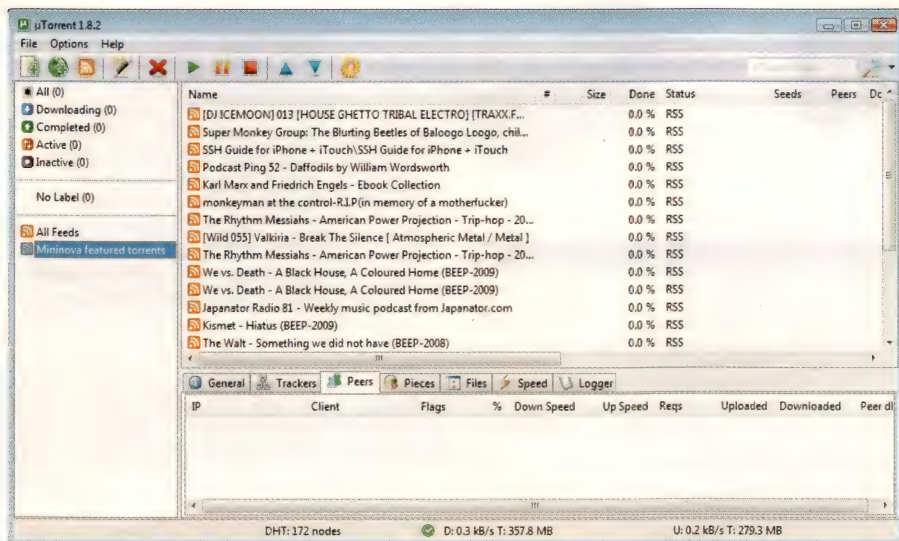
BitTorrent can maintain a large number of connections to other computers (peers), so it's often tempting to set the maximum number of connections to an extremely high number. The more peers you have the better, right? Not quite. Your modem and connection will only be able to handle a given number of connections and after that, additional connections will actually have a negative effect on performance.

A quick guide is that you should set your global maximum connections to 200 if you're on ADSL or cable, or 300 if you're on ADSL 2+. You can also take a look at <http://tinyurl.com/clphxr>, which has a settings calculator you can use.

While it's technically for Vuze/Azureus, it works for µTorrent as well. To set the maximum connections in µTorrent, go to Options → Preferences → Bandwidth. In Vuze, it's Tools → Options → Transfer. You'll need to be in Intermediate or Advanced mode to access these settings.

To set upload limits in Vuze, click on the Transfer tab in the Options dialog.





—UPGRADE JAVA

This one's important for Vuze, which runs on top of Java. Vuze is very system resource heavy, but more recent versions of Sun's Java Virtual Machine (JVM) can make it run lighter and faster. Go to www.java.com and download the latest version.

—AUTOMATE TORRENT DOWNLOADS

RSS feeds are primarily used for getting news updates, but they're also great for downloading torrents, especially for subscription-type services. Many BitTorrent sites offer RSS feeds, often in different categories (like music) or for a series of episodes of a specific show. µTorrent and Vuze both support these feeds. First, find the URL of the RSS feed on your favourite BitTorrent site. Then, in µTorrent, add an RSS feed by right-clicking on 'All Feeds' in the left panel and selecting 'Add RSS feed'. Paste in the web address and tell µTorrent if you want to automatically download everything that comes on the feed. You can view the feed at any time by left-clicking it in the left panel, and double-clicking on an entry will start that download. In Vuze, you click on the plus icon next to Subscriptions. Start up the subscription service if it's not already started and select 'Create New Subscription'. Click on the RSS tab and paste in the web address.

—CONTROL TORRENTS FROM AFAR

Both µTorrent and Vuze can be set up to be controlled using a web browser, which also allows you to remotely access and control the clients over the internet. There's a guide to doing this in µTorrent at <http://tinyurl.com/c55luo>. Vuze requires a plug-in to achieve this — we've found Swing is the best (download it from <http://tinyurl.com/5yve3>). In fact, there's actually a whole host of plug-ins for Vuze, from download automation to IM notifications of downloads,

to experimental speed boosters and Sudoku. A list can be viewed and downloaded from <http://tinyurl.com/3v3k8>.

—MAKE µTORRENT PORTABLE

If you'd like to use µTorrent on the go, or on different machines at different times, you don't actually need to install it on every PC. Instead, just copy the utorrent.exe file to a USB flash drive. You'll also need to find your settings.dat file and copy that over; in Vista, it can be found in your AppData directory. The easiest way to find it is to click Start, then in the search bar type **%AppData%\uTorrent** in the 'Start Search' box and select the folder that appears in the results. Then, copy settings.dat to the same directory as utorrent.exe on the USB stick, and you can then run it directly from the drive without installing it on the system.

—FANCIFY µTORRENT

Skins for µTorrent can be downloaded from www.utorrent.com/skins. You then have to copy the downloaded file into your µTorrent AppData settings directory (the same one as in the previous tip).

—USE OPEN-SOURCE CLIENTS

This tip doesn't just apply to BitTorrent — we'd recommend using an open-source client on any P2P network, rather than closed-source and paid clients. Last issue, for example, we talked about FrostWire, a program that's basically LimeWire without being crippled like the free version of LimeWire is. Open-source clients are also less likely to come with spyware and are under constant development. You should never, ever have to pay for a P2P client.

—TRACK BANDWIDTH USE

It's easy to quickly reach your monthly download quota with P2P. Usage meters help

Feeds in µTorrent can make downloading a series much simpler.

you to track how much quota you have left. Most usage meters are ISP specific (you can download some from the ISP's page, others from third parties), but one of our favourites is a Firefox plug-in called Net Usage Item, which can be downloaded from <http://netusage.iau5.com>. It works with a huge range of Australian ISPs.

—ONE AT A TIME, PLEASE

Trying to use multiple P2P programs at the same time is a recipe for disaster. They'll compete with each other for bandwidth (especially upload bandwidth) and may flood your connection, making it unusable. They may also test the limits of your modem router since, as we mentioned above, routers are often limited in the number of concurrent connections they can maintain. The more connections they have to maintain, the less processing power they have to do other things, like transferring actual data.

This limitation also extends over several PCs connected to the same internet connection. If you have multiple PCs and multiple P2P users in the household, it's a good idea to designate one as the official P2P computer. You can use things like remote web interfaces (available in eMule and several BitTorrent clients) to allow everybody to use the same system.

—USE A NON-DEFAULT PORT

Most programs allow you to choose the port number they use to transmit and receive data. It's a good idea to choose a random number in the 49152-65534 range, rather than leave it on the default setting. The defaults are known to ISPs and they'll often block or filter traffic on those ports. Some BitTorrent trackers will even block clients on the default ports because they know that ISPs filter them; having somebody with a slow connection is not good for the health of the network.

—GET PEERGUARDIAN

PeerGuardian 2 (available at www.phoenixlabs.org/pg2) is an IP filter that prevents nasty sites from communicating with your system. Allegedly, it also blocks copyright-monitoring agencies, but its real benefit is that it blocks some of the distributors of fake files on networks like Gnutella/LimeWire and eMule. It's very far from foolproof, but it's better than nothing. ☹

Networking

By Link Harris



On the cover DVD

You'll find WOL 1.0.3, Remote Script, WMI Shutdown tool, Help files for these three, LogMeln Hamachi for Windows, LogMeln Hamachi for Linux, LogMeln Hamachi for Mac OS X, Change RDP TCP port (Portchange.vbs) and Enable/Disable Network Connection (ToggleNetConnection.vbs) on this month's cover disc.

_BRING IT BACK

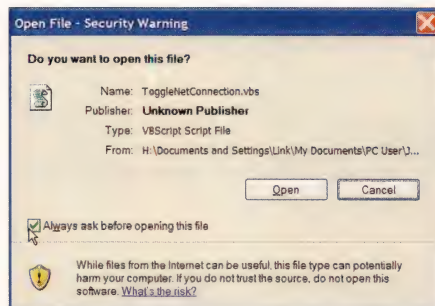
None of the Setup programs for the freeware described in these tips creates a restore point, and there's no restore point for the two VBS scripts. To let you bring your PC back the way it was (in case things go pear-shaped) be sure to create a restore point manually before trying any of these programs. In Windows XP, the path is Start → 'All Programs' → Accessories → 'System Tools' → 'System Restore' → 'Create a restore point'. In Vista, type **system** into the 'Start Search' field, click 'System Restore' → 'Open System Protection' link → Create button.

_SCRAP THE SECURITY WARNING

When you run either of the .vbs files in the following two tips, Windows will display a security warning, asking whether you want to open the file. You can clear the warning by clicking the Open button, but this partly defeats the purpose of having a dedicated file to reduce mouse clicks. However, if you untick the box 'Always ask before opening this file' before you click the Open button, you'll never see the warning again for that particular file. By the way, .vbs is the extension for files created in VBScript, which is short for Visual Basic Scripting Edition.

_ENABLE/DISABLE WIRELESS

If your PC has a wireless network connection, it's handy to be able to give it the chop whenever you want to isolate your computer from the wireless world around it. If you have an icon for the wireless connection in the notification area, you can right-click it and select Disable. However, there's more work involved when it comes time to re-enable the connection, which you have to do from 'Network Connections'. In Windows XP:



- 1 Click Start, right-click 'My Network Places' and select Properties.
- 2 Right-click 'Wireless Network Connection' (under LAN or 'High-Speed Internet') and select Properties.
- 3 Click Enable.

- In Vista:
- 1 Click Start, right-click Network and select Properties.
 - 2 Click 'Manage network connections' in the task pane at the left.
 - 3 Right-click 'Wireless Network Connection' (under LAN or 'High-Speed Internet') and select Enable.

If all this seems like too much hassle, you can make your life easier in Windows XP by using the file ToggleNetConnection.vbs. You can either download it ('Enable/Disable Network Connection', #392 on the right at www.kellys-korner-xp.com/xp_tweaks.htm) or grab it from this month's cover disc. Drag the .vbs file to your Quick Launch bar to create a shortcut there, which lets you enable or disable your wireless network connection with a single click.

_REMOTE WAKEUP CALL

If your Ethernet network card supports Wake on LAN (WOL or sometimes WoL), this means you can bring your PC out of Standby mode by sending it a special data packet over the local wired network. WOL

To keep this warning from occurring again for this particular file, untick the box before clicking the Open button.

isn't usually enabled by default, but you can check this and enable it, if necessary, from 'Device Manager'.

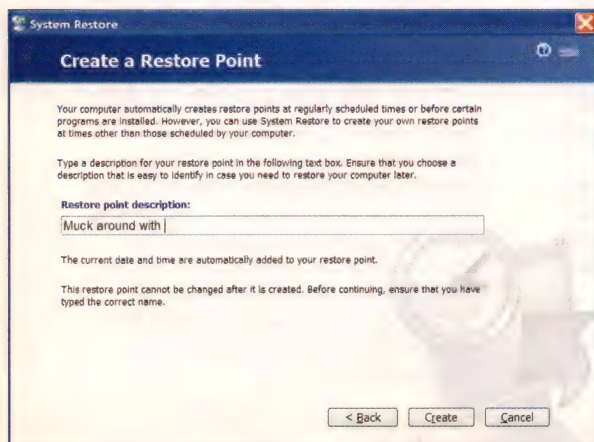
- 1 Click Start, right-click 'My Computer' in Windows XP (Computer in Vista) and select Manage.
- 2 In the left pane, expand 'System Tools' and double-click 'Device Manager'.
- 3 In the right pane, expand 'Network Adapters' and double-click your Ethernet card.
- 4 Click the 'Power Management' tab and tick 'Allow this computer to turn off this device to save power' to undim the box below it.
- 5 Tick 'Allow this device to wake the computer' and click OK.

_WALKABOUT WOL NOT ON

If you have a notebook, it's not a good idea to enable WOL when you're running the computer from its battery. That's because the Ethernet card may periodically wake itself up to refresh its network state, either draining your battery or inadvertently upsetting airline cabin crew.

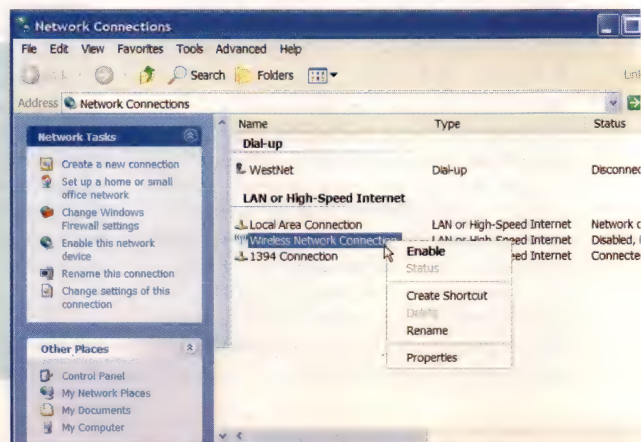
_WOL REALITY CHECK

Windows displays a 'Power Management' tab for an Ethernet card's Properties sheet, even if the card doesn't support WOL (which not all Ethernet cards do). You can check out your network card from another PC on the network, using freeware WOL 1.0.3 from



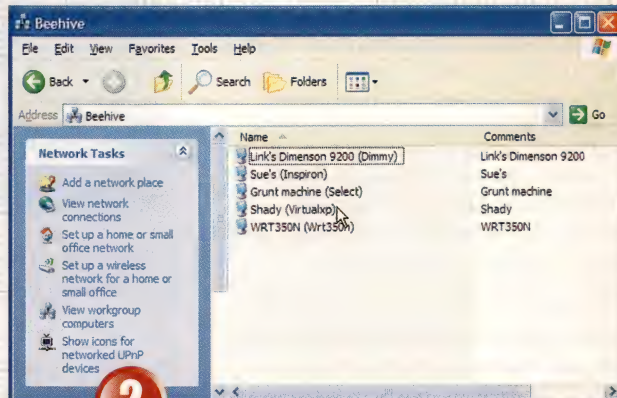
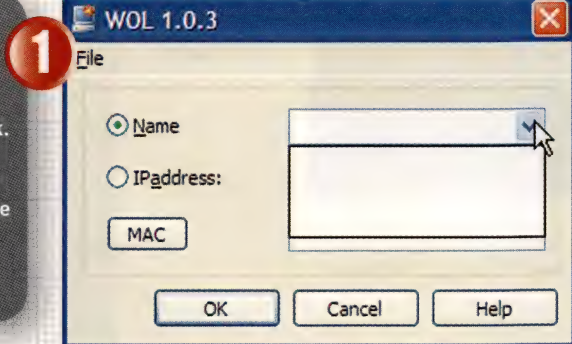
You can re-enable a disabled wireless network connection from the 'Network Connections' window.

It's always a good idea to create a restore point before trying new software.



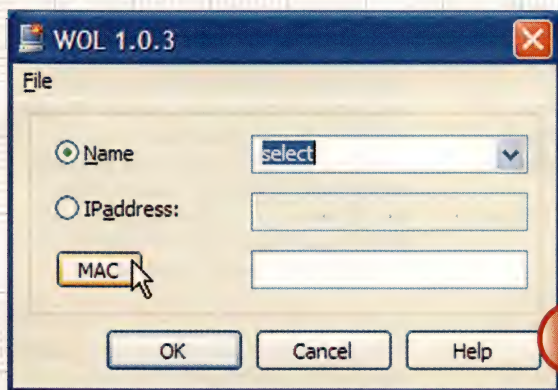
stepbystep GIVE YOUR ETHERNET CARD A WOL CALL

WOL 1.0.3 doesn't pick up the names of the other PCs on your network. If you know the computer name you're after, type it into the Name field and move to step 3.



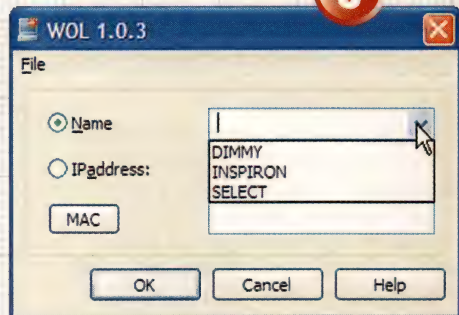
If you don't know the computer names, click Start → 'My Network Places' → 'View workgroup computers' (in the task pane at the left). Virtualxp (at the cursor) is the name of the PC where WOL 1.0.3 is installed, but Dimmy, Inspiron or Select are all suitable candidates for a WOL call.

After you have successfully performed step 3 for other PCs on your network, WOL 1.0.3 saves their names in the drop-down Names list, and also remembers their IP addresses and MAC addresses.



After you've typed in a computer name, click the MAC button to resolve the IP address and MAC address. Then click OK.

Click the Unblock button to open Windows Firewall for WOL 1.0.3. Click OK again to send a WOL packet to the PC named Select.



www.simply-ware.com or this month's cover disc. This utility sends a 'Magic Packet', the special set of network data that tells an Ethernet card to wake up, to another PC on the network. The step-by-step guide above shows how to use the program. For more details, either see the help file on this month's cover disc or click Help, which takes you to the Simply-ware site, where you can view the Help file. For WOL to work, both the Ethernet card and the motherboard on the remote PC must support it, and remote wakeup (or similar) must be enabled in the BIOS.

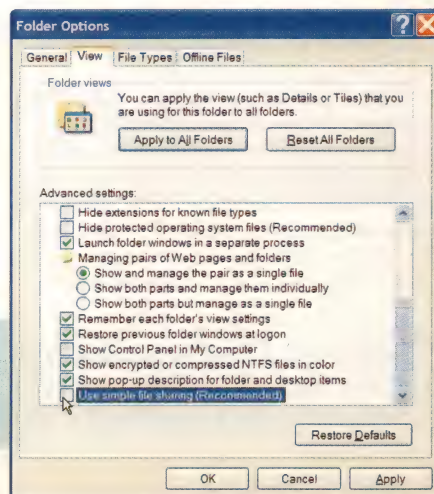
_SET UP FOR SHUTDOWN

Provided a PC on your network is running Windows 2000, XP Professional or any flavour

of Vista, you can remotely log off, shut down or restart it from another PC on your network that runs XP (either flavour) or Vista. Options for doing this include Windows Shutdown.exe or Advanced IP Scanner from www.radmin.com (see page 79 of the February issue for more details).

To put either of these utilities to work, XP must use classic file sharing, which you enable by opening 'My Computer' and clicking Tools → 'Folder Options' → View

If you want to remotely log off, shut down or restart a PC running Windows XP Pro, you need to disable simple file sharing.



tab, unticking 'Use simple file sharing (Recommended)' and clicking OK.

In Vista, you have to disable 'User Account Control'. To do this, type **us** in the 'Start Search' field and click 'User Accounts' → 'Turn User Account Control on or off'. Then, untick 'Use User Account Control' and click OK. Also, for Vista Business and Ultimate, type **lo** in the 'Start Search' field and click 'Local Security Policy' → 'Local Policies' → 'Security Options' and double-click 'Network Access: Sharing and security model for local accounts'. There, select 'Classic - local users authenticate as themselves' and click OK. In addition, for Advanced IP Scanner, you need to specify a user account in the Administrators group on the remote machine for both XP and Vista, and for XP it needs to have a password.

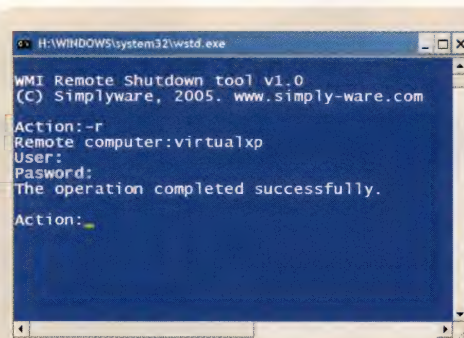
_SHUTDOWN SUBSTITUTE

The WMI Shutdown tool, freeware from www.simply-ware.com or this month's cover disc, is an alternative for the Windows utility Shutdown.exe. The tool's main advantage is that it will remotely log off, shut down or restart PCs running Windows 95/98/98SE/NT 4.0 (SP4 or better), in addition to those running Windows 2000 or XP Professional (but not Vista). The local PC can run Windows 2000/Server 2003/XP (either flavour)/Vista. WMI Shutdown tool is a Command Prompt program and there's no installation. The easiest way to run it is to copy wstd.exe into C:\Windows\System32, where C: represents the drive where Windows is installed on the local PC. Then press Windows key-R, type **wstd -d** and press Enter.

This opens a 'Command Prompt' window with WMI Shutdown tool in dialog mode. At the **Action:** prompt, type the symbol that represents what you want to do on the remote PC and press Enter: **-s** to shut down, for example. At the **Remote computer:** prompt, type the name of the remote PC and press Enter. You can usually skip both the **User:** and **Password:** prompts by pressing Enter at each. Then the result will be displayed, hopefully 'The operation completed successfully'. See the help file for more details. When you're finished with dialog mode, you can type Ctrl-C to close the 'Command Prompt' window.

WMI Shutdown tool is based on Windows Management Instrumentation (WMI), which networks over DCOM (distributed component object model), which in turn uses RPC (remote procedure call) to request a software event on a remote PC. Microsoft uses TCP port 135 for RPC, so you usually need to open this port on the firewall on the

Vista Business and Ultimate need the Classic sharing and security model to allow remote logoff, shutdown or restart.



The WMI Shutdown tool lets you log off, shut down or restart another PC on your network.

remote PC. However, you need a different strategy if the remote PC runs Windows Firewall on XP Professional.

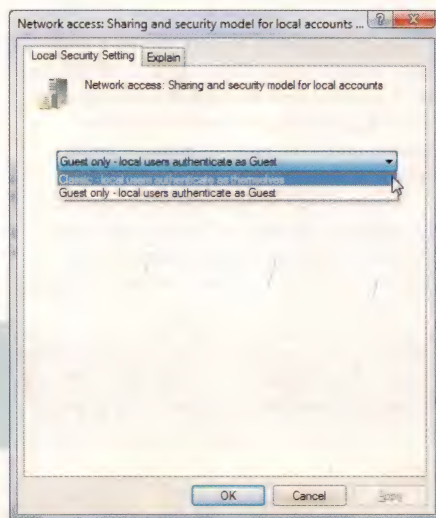
- 1 Press Windows key-R, type **gpedit.msc** and press Enter.
- 2 Browse to Console Root\Computer Configuration\Administrative Templates\Network\Network Connections\Windows Firewall\Standard Profile.
- 3 Double-click 'Windows Firewall: Allow remote administration exception'.
- 4 Click Enabled and then click OK.

In addition, XP needs to use classic file sharing, which you enable by opening 'My Computer' and clicking Tools → 'Folder Options' → View tab, unticking 'Use simple file sharing (Recommended)' and clicking OK.

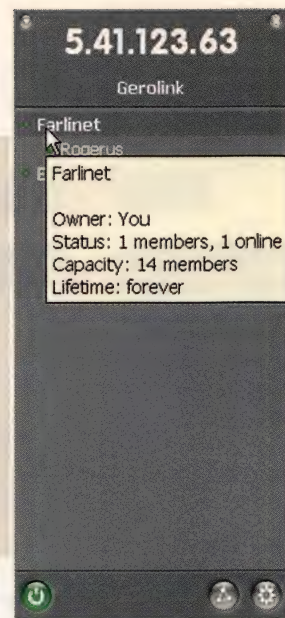
Finally, a remote PC running Windows 9x/NT 4.0 needs to have WMI installed, which you can download for free from <http://tinyurl.com/WMI-NT4> for NT 4.0, <http://tinyurl.com/WMI-9x> for 9x or <http://tinyurl.com/WMI-9xNT4> if you have PCs with NT 4.0 and 9x.

_NETWORK OVER THE NET

Freeware LogMeIn Hamachi (formerly known as Hamachi), from <http://tinyurl.com/Hamachi> or this month's cover disc, lets you make a secure LAN connection to other PCs over the internet. The Windows



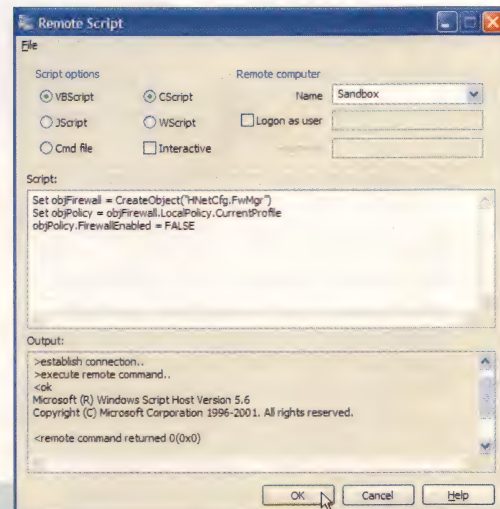
LogMeIn Hamachi lets you create a secure network over the internet.



version is now out of beta and there are also versions for both Linux and Mac OS X. To enable the connection, both computers need to have LogMeIn Hamachi installed. The program doesn't have a help file associated with it and you can't recall the 'Quick Guide' after its initial run. However, the online support is pretty good, comprising FAQs, a knowledge base as well as user-to-user forums.

_NETWORK SCRIPTING

Remote Script, freeware from www.simply-ware.com or this month's cover disc, lets you run VBScript, JScript and Command Prompt strings and batch files on a remote PC running Windows 2000/2003 Server/XP Professional. The help file includes sample scripts and strings. To run scripts, strings and batch files remotely on a PC that runs XP, you need to enable classic file sharing. To do this, open 'My Computer' and click Tools → 'Folder Options' → View tab, untick 'Use simple file sharing (Recommended)' and click OK.



With Remote Script you can run a variety of scripts on other PCs on your network.

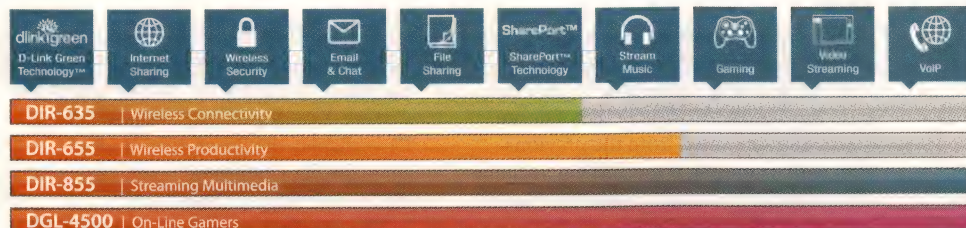
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Building Networks for People

Visual Basic

By Helen Bradley



MANAGING CHECKBOXES

When using multiple checkboxes in Visual Basic, one common problem is figuring out how to efficiently handle them all. If you have lots of checkboxes, you can end up creating the same code for every box, which is time-consuming, redundant and prone to errors. One solution is to use a single checkbox event handler to manage multiple checkboxes.

For example, this event handler, which manages the situation where `CheckBox1` is clicked, can be extended to handle multiple boxes: **CheckBox1_Click(ByVal sender As Object, ByVal e As System.EventArgs) Handles CheckBox1.Click**.

Here the event handler has been renamed and references to additional checkboxes added to it, so it now handles the situation where any one of the four named checkboxes has been clicked. This means that instead of writing four pieces of code, you can write just one: **Private Sub CheckBox_Click(ByVal sender As Object, ByVal e As System.EventArgs) Handles CheckBox1.Click, CheckBox2.Click, CheckBox3.Click, CheckBox4.Click**.

When you need to know which checkbox was clicked you can use the **sender** parameter, which contains details of the object that fired the event handler. This code creates a variable called **myChkbox**, which contains details of the clicked object: **Dim myChkbox As CheckBox = CType(sender, CheckBox)**.

If you leave your checkboxes named `CheckBox1`, `CheckBox2` and so on, this code will determine the final digit of the checkbox name and store it in a variable: **Dim myChkboxIndex As String = myChkbox.Name.Substring(8)**. This gives you the information you need to determine which checkbox was clicked. You can use this information to write one piece of code to handle all the possible situations.

SMARTER CHOICES

Consider the situation where you want to populate a variable with a piece of information depending on the value in another variable. If the value is in the range 1-4, for example, you have a couple of coding options. You could use this code to test the value of the **myNum** variable and return the word "One", "Two", "Three" or "Four", depending on whether **myNum** contains the value 1, 2, 3 or 4.

```

If myNum > 0 Then
    Select Case myNum
        Case 1
    
```

Get Visual Basic

These tips are designed to work in Visual Basic 2008 Express Edition, which you can download for free from www.microsoft.com/eXpress/download/.

```

mynumword = "one"
Case 2
mynumword = "two"
Case 3
mynumword = "three"
Case 4
mynumword = "four"
...
End Select
End If
    
```

The problem is that to manage numbers in the range 1-20, you'll need to write some 40 lines of code, much of it repetitive. An alternative is to use the **Choose** function. This takes the variable containing the value you want to evaluate, and then one entry for each possible value the variable might contain. In this example, the solution is reduced to just one line of code:

```

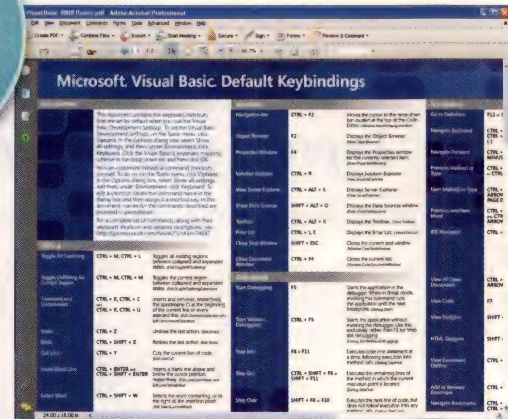
If myNum > 0 Then
    mynumword = Choose(mynum, "One", "Two", "Three", "Four")
End If
    
```

You can add more entries to the **Choose** function by simply adding them after the last value in the braces, ensuring each word is placed inside a set of quote marks and separated from the previous item with a comma. If the **myNum** variable contains a value for which **Choose** doesn't have a corresponding item — in this example, the value 6 — then the function returns a null value.

INSTANT WEB BROWSER

It's easy to create a one-line web browser using VB. Create a new project and from the 'Common Controls' collection, drag the 'Web Browser' control onto the form. The form will change colour to white and you'll see a small arrow appear in the top-right corner under the Close button. Click this arrow and click 'Unlock in Parent Container' so you can drag the browser object into position on the form and size it.

With one line of code you can create a simple web browser.



This printable poster shows many handy keyboard shortcuts for VB Express 2008.

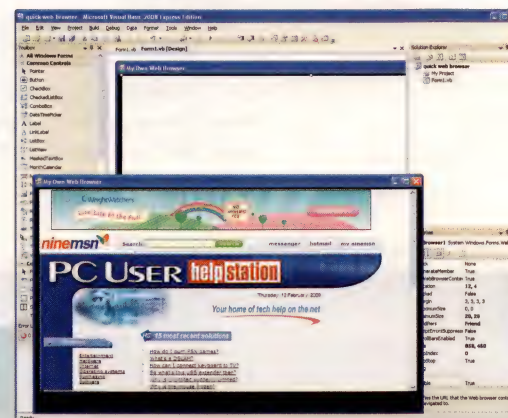
Double-click on the form to open the Code window. You should be looking at the **Form1_Load** event; if not, select it and type this code between the **sub** and **end sub** statements, changing the URL as necessary: **WebBrowser1.Navigate("http://www.pcuser.com.au")**. When you run the form, the web page you specified will appear in the browser object. There will be a scroll bar on the right and bottom if required and you can click any link to progress to that page. To close the web browser, close the form by clicking the Close button in its top-right corner.

You can add extra functionality to the form, such as a Close button and a menu, or a list box offering a series of web pages that you like to visit, which you can select from and then view in your browser.

_VB SHORTCUTS

Here are some handy VB Express shortcuts:
 Ctrl-Alt-L — display the 'Solution Explorer'
 Ctrl-Alt-X — display the Toolbox
 F4 — display the Properties window
 F7 — display Code view
 Shift-F7 — display Design view

You can find, download and print the very handy Microsoft Visual Basic 2008 Keybindings Poster at <http://tinyurl.com/59khxy>.



Visual Basic for Applications

By Helen Bradley

175
EXPERT TIPS

_FILE NUMBERING

When using Visual Basic for Applications in Word, it's possible to create a macro that allows you to save a file with a name created by combining a consecutive number with a recipient's name or other information. The macro uses **Input** and **Output** statements to open a file stored on your disk, which contains the next number in a consecutive sequence. If the file doesn't exist, it's created automatically by the macro. Where the file doesn't exist, the **On Error Resume Next** statement simply steps over the error and continues, and the document number is set to 100. This is the macro code:

```
Sub documentSave()  
Dim docNum As Integer  
Dim FileToOpen, Reply As String  
Dim recipient, newfilename As String  
docNum = 100  
On Error Resume Next  
FileToOpen = "c:\windows\myfile998.txt"  
Open FileToOpen For Input As #1  
Input #1, docNum  
Close #1
```

```
recipient = InputBox("Recipient", "Letter Save",  
"Recipient")  
newfilename = Trim(Str(docNum)) + "_" +  
recipient
```

```
With Dialogs(wdDialogFileSaveAs)  
.Name = newfilename  
.Show  
End With
```

```
docNum = docNum + 1  
Open FileToOpen For Output As #1  
Write #1, docNum  
Close #1
```

End Sub

The first lines declare the variables and then **docNum** is set to 100 when the file containing the consecutive number doesn't exist. The **FileToOpen** statement opens the file storing the value and retrieves it. The **Recipient** variable is then populated with the information typed by the user into an input box. This information is added to a string containing the number and an underscore character to make a new filename. The 'Save As' dialog is then displayed, with the new filename appearing in the Name area. All you

need to do is select the folder in which to store the file and click Save. Finally, the document number is incremented by one and written back to the file, so it's available the next time the macro is run.

This macro should be stored in the Normal.dot template, so it's accessible for use with any file in future. To create the macro, go to Tools → Macro → Macros, type the filename **documentSave**, ensure the 'Macros In' drop-down list shows 'Normal.dot (global template)' and click Create. Type the code between the **Sub** and **End Sub** statements and then go to File → 'Close and Return to Microsoft Word'. You can test the macro by clicking Tools → Macro → Macros, selecting **documentSave** and clicking Run.

_CUSTOM LIST DETAILS

You can create custom lists in Excel by clicking Tools → Options → 'Custom Lists' tab and creating your list. These lists, like the four that come with Excel, can be used to populate cells in your worksheet. If you have a lot of lists, you may become confused as to what lists you've created. This next macro will display a dialog box containing details of all your custom lists.

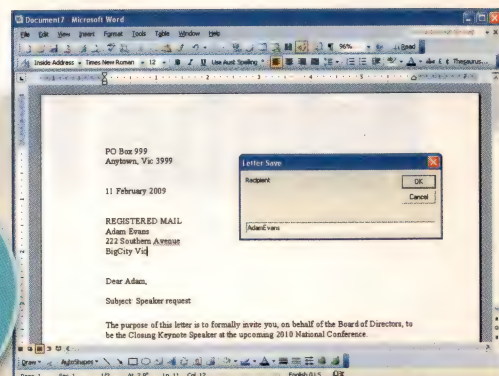
```
Sub showlists()  
Dim userMessage, firstitem, lastitem As String  
Dim myLists As Long  
Dim listarray() As Variant
```

```
If Application.CustomListCount > 4 Then  
userMessage = "Lists are:" + Chr$(13) + Chr$(13)  
For myLists = 5 To (Application.CustomListCount)  
listarray = Application.GetCustomListContents(  
myLists)
```

```
'Read first list item  
firstitem = listarray(LBound(listarray, 1))  
'Read last list item  
lastitem = listarray(UBound(listarray, 1))  
'Add to message with ... between entries  
userMessage = userMessage + firstitem + " ..."  
+ lastitem + Chr$(13)
```

```
Next myLists  
'display message  
MsgBox userMessage  
Else  
MsgBox "There are no user created custom  
lists"  
End If  
End Sub
```

To create it, click Tools → Macro → Macros and type the name **showlists**. From



This Word macro saves each file with the name of your choice, preceded by a unique consecutive number.

the 'Macros In' drop-down list, select **Personal.xls** and click Create. Type the macro, go to File → 'Close and Return to Microsoft Excel' and test it. When you run it, you'll see a small dialog listing the first and last entries in each custom list. If there are no custom lists, the dialog will tell you. As the first four lists in the dialog are Excel's own, the macro skips these and shows only those you've created. However, you could change the macro to display the first and last entries in all the lists, including those shipped with Excel.

_HIGHLIGHTING FORMULAS

When you're troubleshooting a workbook and trying to determine which cells contain formulas, you can use a macro to highlight them for you:

Public userRange As Range

```
Sub markformulas()  
Set userRange = Application.  
InputBox(prompt:="Select a range on this  
worksheet", Default:=ActiveCell.Address, Type:=8)  
For Each cell In userRange  
If cell.HasFormula Then  
cell.Interior.ColorIndex = 4  
cell.Interior.Pattern = xlSolid  
Else  
cell.Interior.ColorIndex = xlNone  
End If  
Next cell  
End Sub
```

```
Sub undomarkformulas()  
For Each cell In userRange  
If cell.Interior.ColorIndex = 4 Then  
cell.Interior.ColorIndex = xlNone  
End If  
Next cell  
End Sub
```

The **markFormulas** macro prompts you to select a worksheet range. It will then check each cell in the range to see if it contains a formula and, if so, it will change the cell to a bright green colour. When you've checked your work, run the macro **undoMarkFormulas** to remove the colouring from the cells. The **Public UserRange** variable ensures the range is stored so you don't need to reselect the range to remove the highlighting.

Adobe Photoshop

By Helen Bradley



_MAKE SMALLER IMAGES

When you use duplicate layers and blend modes to adjust an image, such as you might do to correct poor exposure, you end up doubling the image size. If you create a duplicate of the background layer and then set the blend mode of that layer to Screen to lighten the image or to Multiply to darken it, you've instantly doubled the size of your file. You can cut memory usage and save disk space by using the 'Apply Image' command instead. To see this at work, click the background layer and go to Image → 'Apply Image'. Set the Source to the current image name, the layer to Background, the Channel to RGB and set the 'Blending Mode' to Multiply (or Screen). Provided the Preview checkbox is enabled, you can view the result and adjust the Opacity value until you're happy with the fix. Click OK and the image will be fixed without any increase in file size.

_REPEAT & ALIGN

It's possible to create images in Photoshop using drawn objects that are repeatedly rotated to create composite shapes like a sunburst. Start with a new document and create a new layer (Layer → New → Layer). Click the Pen tool, ensure the Paths option is selected on the options bar and draw a single triangle. Do this by clicking where the point will be at around the middle of the image, then click above this and slightly to the left to create the first of the sides, hold the Shift key and click to the right to create the base, and then click over the original point again to finish. You now have a triangle path. View the Paths palette and click the 'Load Path as a Selection' button at the foot of the palette. Set the foreground colour to your choice of fill colour and press Alt-Backspace to fill the



On the cover DVD

Helen Bradley explains some of the following tips in a video tutorial on this month's cover DVD.

shape with this colour. Press Ctrl-D to turn the selection off. Click on the layer itself, go to Layer → New → 'Layer Via Copy' and then Edit → Transform → Rotate to display the Rotation tool options. In the 'Reference Point Location' block, select the bottom middle of the nine boxes. Set the angle to 15° or some value that divides evenly into 360 and click the 'Commit Transform' button. Select Layer → New → 'Layer Via Copy' and then Edit → Transform → Again. Repeating these two commands or pressing the shortcut keys Ctrl-J and Ctrl-Shift-T lets you repeat the copy and transform task and, in a few keystrokes, you'll have a piece of custom art. When you're done, merge all the layers except the background layer.

_SAVE YOUR DESIGNS

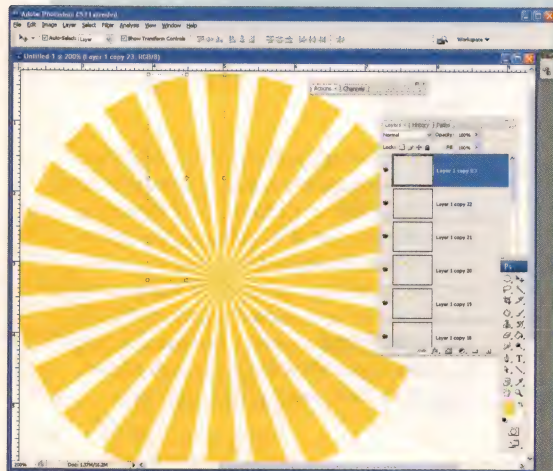
If you create brushes, patterns, gradients or other items in Photoshop, you stand to lose them if you reset your Photoshop preferences or if you're forced to reinstall Photoshop for any reason. By saving these items as external files you'll ensure that you always have them available as files on your disk. Go to Edit → 'Preset Manager' and from the 'Preset type' list, select the type of object you want to save, such as Brushes. Select the Brushes to save (you can select multiples if desired) and click 'Save Set'. Type a name for the set and click Save. This saves it as a file, allowing you to reload the contents later on using the appropriate Photoshop panel. Make sure you add these files to your regular backups.

_QUICK VIGNETTE

One older technique in photography was to darken the edges of the photograph to give it a natural border. This also focuses the attention on the subject of the photo. To create a quick vignette effect that darkens the image edge, click Filter → Distort → 'Lens Correction'. Locate the Vignette option and drag the Amount slider to the left to create darkened edges. Click OK and you have an instant vignette. This tool is also useful for creating a fisheye-type effect. In this case, drag the 'Remove Distortion' slider to the left to create a fisheye bulge in the centre of your photo.

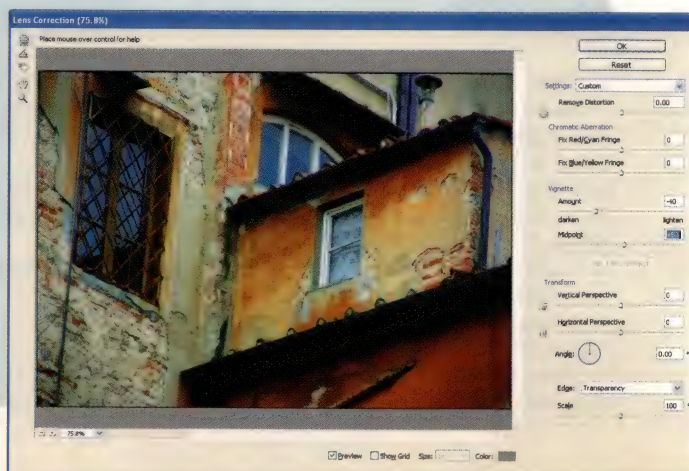
_CLONE TOOL OVERLAY

If you're using Photoshop CS4, you now have a Clone tool overlay that makes it easier than ever to clone problems out of images by displaying the area that you're about to paint with as an overlay at the mouse pointer. You won't have this tool if you're working with Photoshop CS2 or CS3, but you can fake it using the 'Vanishing Point Filter'. Start with an open image and go to Layer → New → Layer and click OK so you're cloning onto a new layer. Choose Filter → 'Vanishing Point' and click the Create Plane tool. Click at all four corners of the image in turn to create a grid that covers the entire image. Click the Clone tool and Alt-click on the source area that you'll use as your 'paint'. When you hold the mouse cursor over the image, the area of the image that you're about to paint with will appear, making it easier to clone out problems. Resize the brush if necessary using the [and] keys, and then clone out the problem area. Click OK when you're done and you'll find your cloned fix is on the new layer, so you can blend or adjust it as desired.



With a few keystrokes it's a simple process to create a sunburst like this in Photoshop.

The Lens Correction tool can be used to apply a quick dark edge or vignette to your image.



stepbystep DIY BRUSHES

_PATCH TOOL


Photoshop's Patch tool is useful for fixing problems in images, as it lets you select the area to fix the problem with. Unlike the Clone tool, however, Photoshop does quite a bit of work blending the fix in so you don't have to do it yourself. The Patch tool shares a toolbar position with the Spot Healing Brush tool. Select the Patch tool and make sure Source is selected in the tool options bar. Make a selection around the area you want to fix, and then click and drag the selection over an area of the image to use for the repair. As you do this, you'll see the repair appear over the problem area. When you get a reasonable-looking result, let go of the mouse button and Photoshop will blend the two areas together.

_QUICK & FUNKY PANORAMAS

While panoramas are easy to create if you have good images to use for them, they're not always as successful if you don't have perfect shots. If you're willing to trade perfection for results, you can create a funky panorama even from a completely haphazard set of images.

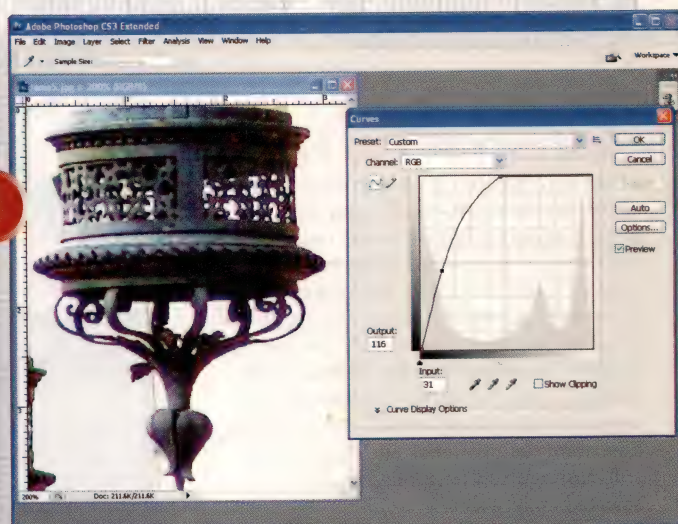
Go to File → Automate → Photomerge, click Browse and select the images to use in your panorama. Disable the 'Blend Images Together' option, choose 'Reposition Only' and click OK. Wait as Photoshop loads the images and arranges the image. When it's done, the images should be roughly aligned as a panorama, but they shouldn't be blended together. Each image should be on its own separate layer.

Extend the image canvas by clicking on the Crop tool, selecting over the entire image and then letting go of the mouse button. Drag on the handles to extend the photo into the grey area that surrounds the image and then double-click to add the additional canvas to the image. Add a new layer by selecting Layer → New → Layer and clicking OK. Drag this layer to the bottom of the Layers palette and fill it with a dark colour such as black.

Click one of the image layers, go to Layer → 'Layer Style' → Stroke and set the Color to white, the Size to around 20 pixels so you can see it clearly, and set the Position to Outside. Click OK. This adds a white border around the image. Right-click this layer and choose 'Copy Layer Style'. Select the other layers that contain the panorama images and click 'Paste Layer Style' to apply the style to all the other images. Now click each layer in turn, click the Move tool and rotate and slightly move the image out of alignment. This will give you a more interesting panorama effect because the result is nicely haphazard. If you like this type of panorama, next time deliberately shoot the images for a panorama at odd angles — it will give even better results. 

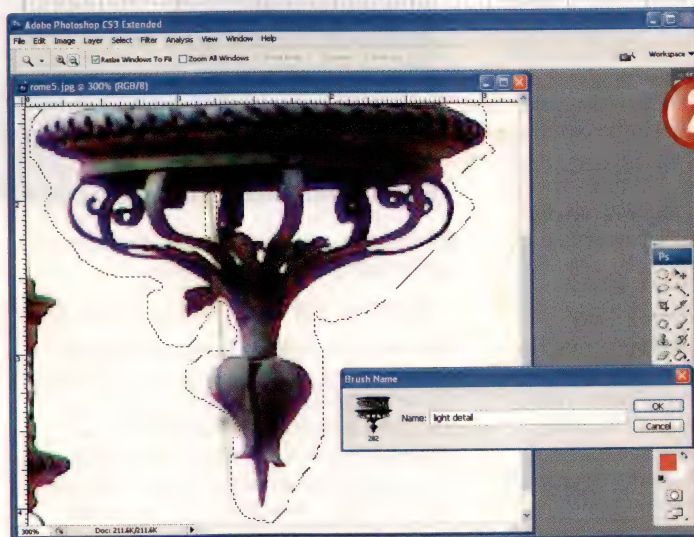
It's easy to transform almost any photo into a Photoshop brush. Begin by selecting the photo and adjusting the brightness and contrast so that the area you plan to use as a brush is well defined. Ignore the effect on the remainder of the image, as all you're looking for is a good, contrasty design.

1



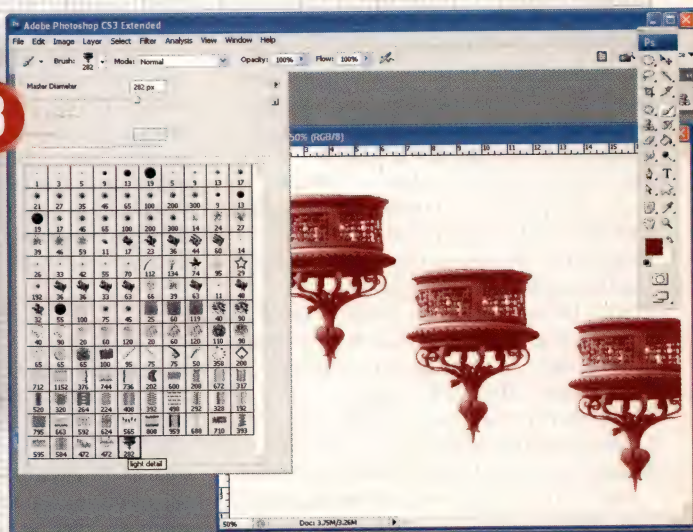
2

Make a selection around the area to use as a brush. You can use any selection tool, just be aware that everything you select will be included in the brush. Using a tool like the Lasso is a good way to select only the desired content for the brush. Go to Edit → Define Brush Preset, type a name for your brush and click OK.



3

To test the brush, open a new image, choose a foreground colour and select your brush from the Brush palette (it will be last in the list). Click to paint on the image with your new brush.



Adobe Lightroom

By Helen Bradley



_QUICK KEYWORDING

There are a number of ways to quickly keyword your photos in Lightroom to make it easier to find them later on. Make sure to start work in the Library module in Grid view and then select the images to tag. If you see an asterisk (*) in the 'Keyword tags' area beside a keyword, this tells you the keyword is applied to some of the selected images, but not all of them. If it should be applied to all of them, click in the Keywords area, remove the asterisk and that keyword will automatically be applied to all the selected images.

You can also paint keywords onto images by selecting Grid view and clicking the Painter tool (spray can) on the toolbar below the image. Type a keyword into the box in the toolbar and then click on each image to add the keyword to it. You can also drag over the images and as you do, a border will appear around them indicating that the keyword has been added to them. If you paint a keyword onto an image that already has that keyword attached to it, the Painter tool will turn into an eraser and the keyword will be erased.

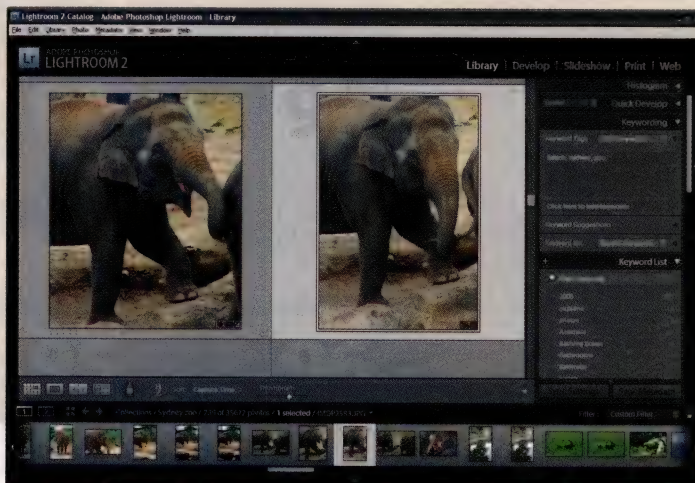
_PHOTO VIGNETTES

There are a number of ways to create vignettes for your photos in Lightroom. The simplest is accessible from the Develop module — select the Vignettes panel and, using the Lens Correction tools, increase the Amount to lighten the image edges, or decrease the value to create a dark vignette.

Using the 'Post-Crop Vignette', you get additional tools you can use to create more complex vignettes. For example, you can make the edge of an image solid white or solid black by creating an oval image. Drag the Amount slider to 100 or -100, depending on whether you want a white or black edge. Set the Feather to 0 so you don't have any softening of the edge, and adjust the Roundness to get the desired oval shape.

It's also possible to create a vignette effect with four applications of the 'Graduated Filter'. From the Develop module, click the Graduated Filter tool, which is the icon third to the right of the Crop tool, or press M to select it. Drag down from the top edge of the image and then adjust the sliders in the panel to darken the image or create the effect. For example, you might reduce Exposure and either decrease or increase Saturation, depending on whether you want a monochrome edge or an enhanced colour one. Repeat the process and add adjustments to each of the four edges of the image,

Using the 'Post-Crop Vignette' options you can create images with very harsh vignette edges in Lightroom.



The icons in the bottom right of the images show whether they have keywords, or if they've been cropped or fixed.

making sure you drag from the edge inwards and set each to the same settings.

_WORKING WITH ICONS

Whenever you make a change in the image using the Develop module, such as changing the exposure or colour in the image, if you crop the image or add keywords to it, one of three different icons will appear in the bottom-right corner of the image in Library view. The tag icon indicates the image has keywords, the rectangular icon indicates it's been cropped and the exposure icon shows it's been edited in the Develop module.

These icons are not only informative, but they're also clickable. If you click the keyword icon in the foot of an image, the Library module opens, the image is selected and the keywords are highlighted in the 'Keyword editor' area. The Develop module opens if you click the Develop icon, and if you click the crop icon inside the Develop module, the most recently applied crop will be displayed.

_COLLECTIONS THAT GROW

Lightroom Smart Collections are dynamic collections that grow as new images are added to your catalogue. You create these collections by describing their properties, such as the keywords or ratings they have. Once you've created a Smart Collection, when you click on its name, you'll see all the images that match the criteria described for

that collection. When new images are added or if you add keywords or ratings to images so they now match the Smart Collection criteria, they're automatically added to that collection.

_APPLYING CHANGES USING PRESETS

Presets are groups of settings that you can apply to an image in Lightroom by simply selecting the image and clicking on the preset. To view the Presets available, click the Develop module and then the Preset option on the left of the dialog. Hold your mouse over a preset and you'll see it applied to the small version of the image in the Navigator just above the Preset panel. When you find a preset you want to apply permanently to the image, click it to apply it.

To create your own preset from an image, first adjust the image as desired. Then, still in the Develop module, go to Develop → 'New Preset' and deselect any change you made that you don't want to apply to all images — leave everything else selected. Type a name for the preset in the 'Preset name' area, select the folder to save it in and click Create. The preset will be available in future from that folder in the Presets panel. Preset templates are saved with the .ltemplate extension and you can import a preset into Windows you've downloaded from the web or obtained on disc. To do this, select the area in the Preset section that it's to appear in, click Import and then choose the preset to import.

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Microsoft Word

By Helen Bradley



CREATE A DIRECTORY MERGE

When you're using a data list to create a mail merge, such as one to make labels for a mailing, you may also need a list of the people you've created merge items for. This is a directory and you can create a list of your data this way using the Word merge tool and your original data file.

In Word 2003, select Tools —> 'Letters and Mailings' —> 'Mail Merge' to display the 'Mail Merge' task pane. Choose Directory as your merge type and click Next. If the current document is empty, click the 'Use the current document option' and click Next for the Recipients. To use your existing list, click 'Use an existing list', then Browse and select your list. Your list can be an Excel file, Access database or it may be stored in a Word document. When you have selected the list and the recipients' names, click Next.

Click the 'More Items' button and add the fields you want to include in the list. For example, insert the 'Last name' field, the 'First name' field and the 'Company name' field. When you close the dialog, space out these entries by inserting one or two tabs between each item. Make sure you press the Enter key at the end of the row, as this will ensure each entry starts on a new line. When you're done, click Next and preview the directory. Each entry will appear in a separate page of the document at this stage, but this won't be the case when you actually perform the merge. When you're satisfied that the recipients' names are being entered correctly, click Next

WordArt can be made to look smart, even though it's the same in Word 2007 as earlier versions.

and click the 'To New Document' option. Select 'All records' and click OK. Word will create a document with a list of the details from the data file one after another down the page. Add page headings and other details to the page before saving and printing it.

EASY DATE INSERTION

A new feature of Word 2007 is content blocks, which provide a neat interface for user input, such as adding dates. Display the Developer tab by clicking the Office button —> 'Word Options' —> Popular and enable the 'Show Developer tab in the Ribbon' checkbox. Select the Developer tab —> 'Design Mode', click in the document where the date should be inserted and click the 'Date Picker' button. Right-click the content block, select Properties and choose a date format. Click 'Design Mode' to return to the document. In future, your user can insert a date by clicking the down-pointing arrow to the left of the 'Date Picker' object and selecting the date from the box that appears.

SMART WORDART OBJECTS

While WordArt is the same in Microsoft Word 2007 as it was in earlier versions,

you can still create some interesting WordArt effects with a little imagination. Go to the Insert tab —> WordArt and add a three-line element using WordArt style 1. Leave the middle line blank for a circular design and click OK. From the 'WordArt Shapes' list, select 'Button (Curve) Shape'. Resize it to make it circular and click outside it to deselect it. Go to the Insert tab

The 'Date Picker' makes it easy to add dates to a document.



On the cover DVD

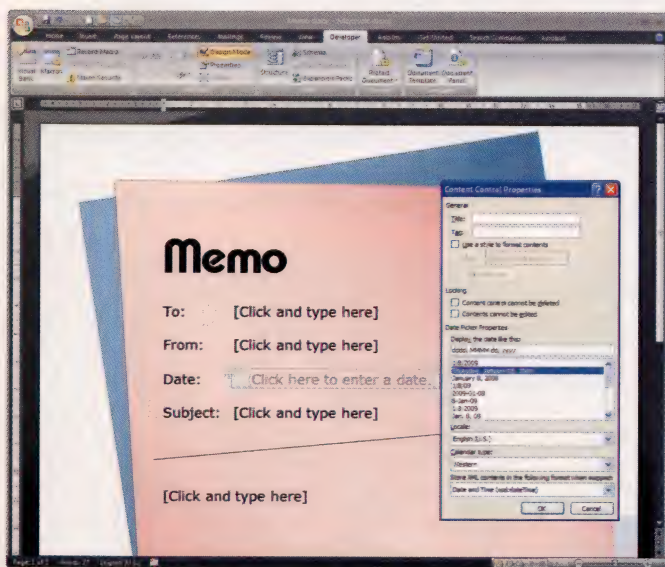
You'll find a video tutorial explaining some of these tips on this month's cover disc.

—> Shapes (in Word 2003, do this through the Drawing toolbar) and make a circle using the Oval tool and holding the Shift key as you drag to create the shape. Fill the circle with a gradient fill in Word 2003 and use a 'Shape Style' in Word 2007. Right-click the WordArt and choose Order —> 'Bring to Front'. Drag the WordArt over the shape and size it to suit. You can get even smarter results using circles layered over each other, and you can even duplicate the WordArt object, change the font colour and place it below the other element to provide a stamped version on the page.

CONTROL OVERTYPE MODE

Overtyping is a double-edged sword — you either love it or hate it and it's the default in Word 2003, but not in 2007. If you're a Word 2003 user you can disable overtype so it no longer gobbles up your text when you least expect it. To do this, select Tools —> Customize —> Keyboard and from the Categories list, choose 'All commands'. In the Commands list, select Cancel. Click in the 'Press New Shortcut Key' area, press the Insert key and then click Assign to assign the Insert key to the Cancel command. Now the Insert key will perform like the Esc key and it won't toggle Overtyping mode.

If you're a Word 2007 user, you can make it work like Word 2003 by clicking the Office button —> 'Word Options' —> Advanced and enabling the 'Use the Insert key to Control Overtyping Mode' checkbox. To set Word 2007 to default to Overtyping mode permanently, select the 'Use Overtyping Mode' checkbox, then click OK and you're done.



Microsoft Excel

By Helen Bradley

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CONSISTENT CHARTS

You can save an Excel 2007 chart as a template so you can reuse it later. This is particularly useful if you want every column in a single series chart coloured differently. Select a column by clicking on it twice (not a double-click), then go to 'Chart Tools' —> Format —> 'Shape Styles' and choose a colour and style. Repeat for each column and do it on a chart with at least as many columns as you'll ever use. To create the template, go to 'Chart Tools' —> Design tab and click 'Save As Template', type a name and click Save. To use the chart template, select the data to chart, click the Insert tab —> 'Other Charts' —> 'All Chart Types' —> Templates. Click the saved template and then OK.


TABLES IN EXCEL 2007

Excel 2007 offers sophisticated formatting

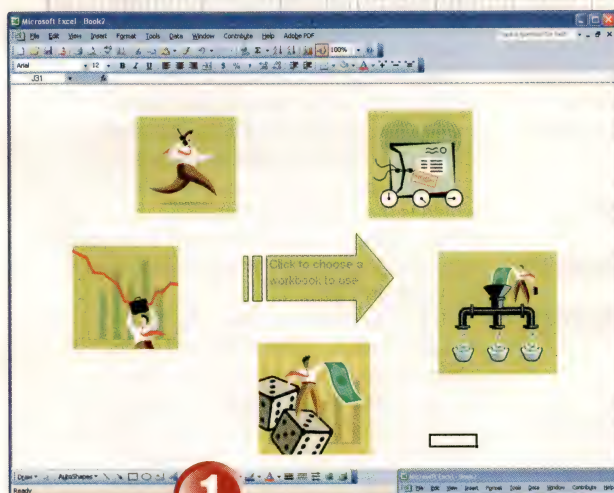
options, but only if you're prepared to convert your range to a table. However, you can work around this. Start by selecting your data and clicking Home tab —> 'Format as Table' and choosing a format. You'll notice that Excel applies an AutoFilter to your data, which might not be what you want. In addition, if you have data alongside a table (but not part of it) and you delete a row from the table or insert a row into it, the data alongside will remain in place.

If you want to retain the nice formatting in the table, but not the table behaviour, click in the table and go to 'Table Tools' —> Design tab, click the 'Convert to Range' option and then Yes when prompted to convert the table to a normal range. The range will go back to behaving like a typical Excel range and the formatting will be retained.

PROBLEMS WITH FORMULAS

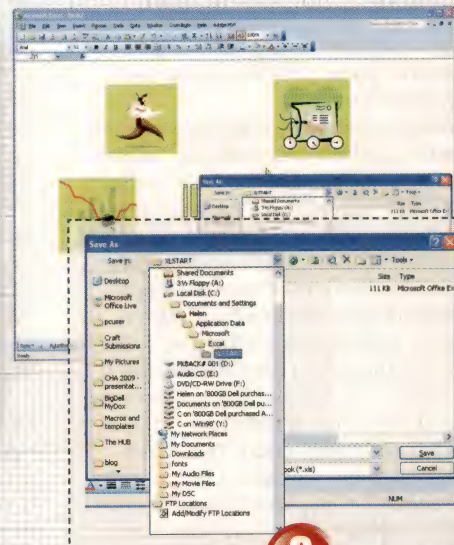
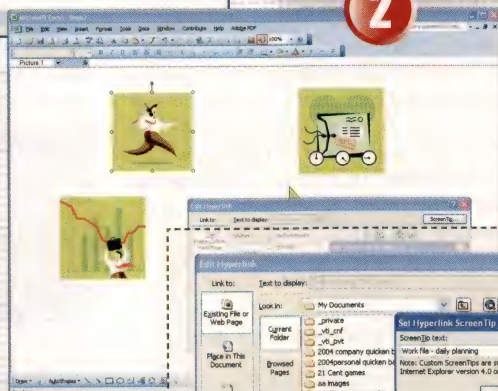
If you're having difficulty understanding how a formula is calculating, perhaps because it appears to give you the wrong results, you can step through it to see how it's working. To do this, select the cell containing the formula and go to Tools —> 'Formula Auditing' —> 'Evaluate Formula' — in Excel 2007, the 'Evaluate Formula' option is on the Formulas tab. Click Evaluate and each time you do this, a portion of the formula will be evaluated and you can see it at work. Use the 'Step In' and 'Step Out' options to see the actual values in place of any appropriate cell references. This step-by-step processing should show you what's happening in your formula, allowing you to troubleshoot any difficulties with it. 

stepbystep CREATE A GRAPHIC STARTUP PAGE



To a new workbook, add one picture for every workbook you want to link to your startup page by clicking Insert —> Picture —> ClipArt. Size and arrange the images neatly. Go to Tools —> Options —> View tab and disable Gridlines, 'Row & Column Headers', 'Horizontal Scroll Bar', 'Vertical Scroll Bar' and 'Sheet Tabs'.

Right-click an image, choose Hyperlink and link to a workbook you use regularly. Then type a description of the workbook in the Screentip dialog. Link each image to a workbook. To protect the worksheet, select Tools —> Protection —> 'Protect Sheet' and click OK.



Go to File —> 'Save As' and select your XLStart folder, which is likely to be C:\Documents and Settings\\Application Data\Microsoft\Excel\XLStart. Name your file menu.xls, close it, exit and restart Excel. The menu workbook will appear every time you launch Excel, giving you one-click access to your favourite workbooks.

Microsoft PowerPoint

By Helen Bradley



_ANIMATE A BACKGROUND

This cool effect is easy to create in Microsoft PowerPoint 2007 and the result is a slide with a moving photo behind it. Start by creating an image the size of your screen in height and around 25% wider; for example, if you're presenting on an 800 x 600 screen, the image should be 1,000 x 600 pixels in size. Don't make the image any larger than it needs to be, as a large size image won't move smoothly. Save it as a .jpg file at a medium quality — again, aim to keep the file size as small as possible.

Inside PowerPoint, click the Home tab —> 'New Slide' —> Design tab and choose a theme that has minimal information on it, such as the Office theme. Right-click it and select 'Apply to Selected Slides'. Right-click each placeholder and delete it from the slide so you have a clean slide to work on. Go to Insert —> Shapes —> Rectangle and draw it over the slide so it's wider than the slide. Align it with the left-hand side of the slide so it extends over the right edge. Right-click the shape and select 'Format Shape' —> 'Fill Group' —> 'Picture or Text Fill' —> File, choose your photo and click Insert, then finally click Close.

From the Animations tab, go to 'Custom Animation' and click the rectangle. Select 'Add Effect' —> Entrance —> Fade. Set Start to read 'With Previous', set the Speed to Medium (this fades in the image). Go to 'Add Effects' —> 'Motion Path' —> Left and set Start to 'After Previous'. If any white slide background appears when the motion is complete, click the red pointed end of the arrow that appears on the slide and drag it to the right so it's shorter. Now you have the fade and movement in place.

To adjust the animation timing, click the down arrow to the right of the last entry in the animation list, select 'Show Advanced Timeline' and drag the coloured rectangle to the right to make the effect last longer. With the rectangle still selected, go to 'Add Effect' —> Emphasis —> 'Grow/Shrink'. Set the size to 150%, set Start to 'After Previous' and adjust the length of the coloured bar to adjust the timing. Check your slideshow presentation before continuing. To add the placeholders back on the slide, click the Home tab and choose the appropriate set of placeholders from the Layout drop-down list.

_IMAGE TOGGLE MACRO

One interesting effect to add to a PowerPoint presentation is an image toggle. Using this, you can have an image on a slide that



On the cover DVD

You'll find a video tutorial explaining some of the following tips on this month's cover disc.

changes when you click on it. To do this you'll need to place two images the same size on slide 1 in a new PowerPoint presentation (these should be the only images on the slide). Then, create this macro — when you click on one image, it will change to show the second image.

In PowerPoint 2003, go to Tools —> Macro —> Macros, type the macro name **toggleImage** and click Create. Type this macro code between the **Sub** and **End Sub** statements:

```
ActivePresentation.Slides(1).Shapes(1).Visible = Not (ActivePresentation.Slides(1).Shapes(1).Visible)
```

```
ActivePresentation.Slides(1).Shapes(2).Visible = Not (ActivePresentation.Slides(1).Shapes(2).Visible)
```

After the **End Sub** statement, type the code for this second macro. It doesn't feature in the solution, it just hides one image to get you started and it can also get you out of trouble if you accidentally end up with both images hidden.

Sub fixShapes()

'use if you make both shapes disappear accidentally and to start routine

```
ActivePresentation.Slides(1).Shapes(1).Visible = False
```

```
ActivePresentation.Slides(1).Shapes(2).Visible = True
```

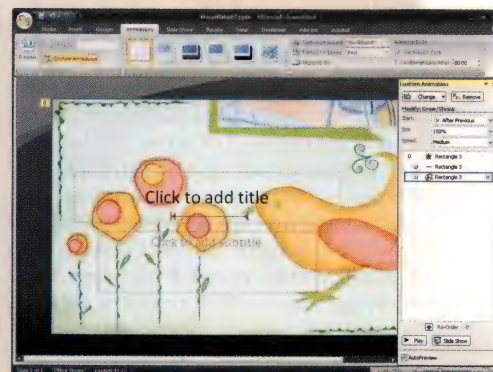
End sub

Click File —> 'Close and return to Microsoft PowerPoint'. Select the first image, right-click it and select 'Action Settings'. Go to 'Mouse Click' —> 'Run Macro' and set it to run the toggleImage macro. Do the same for the second image. Position the images so they are on top of each other. Go to Tools —> Macro —> Macros, select fixShapes and click Run. This sets up the show by hiding the first image. Now, when you run the slideshow and click the visible image, it will be hidden and the other one will appear in its place.

_CONFIGURING ALL SLIDES

Every PowerPoint slideshow has a slide

It's easy to create a macro that toggles the visibility of an image on a PowerPoint slide.

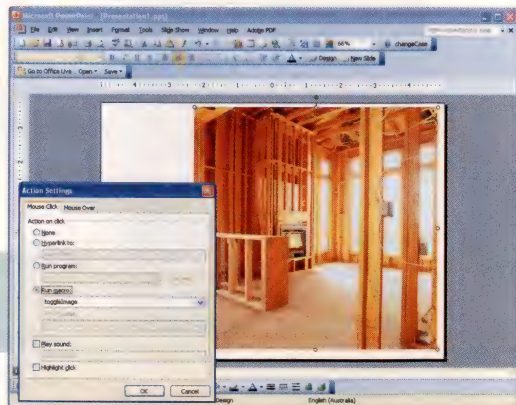


You can create a moving PowerPoint background image using a custom animation.

master that controls the look and feel of all the slides in the show. In PowerPoint 2007, select View —> 'Slide Master'. The 'Slide Master' tab will appear at the left of the tab bar, which is unusual behaviour for the Ribbon. In PowerPoint 2003, click View —> Master —> 'Slide Master'.

By altering the elements on the slide master, such as the title text and the text styles, you can alter the look and feel of every slide in your presentation. In PowerPoint 2007, in addition to altering the slide master, which is the top slide in the list on the left of the screen, you can also adjust the layouts available for that slide by altering any of the layouts below this.

If you don't want to offer a layout as a usable option, right-click it and select 'Delete Layout'. It will be removed from this presentation, but it will be available as a layout for other presentations in future. When you're done, in PowerPoint 2007 click the 'Close Master View' button on the 'Slide Master' tab. In PowerPoint 2003, click 'Close Master View' on the 'Slide Master View' toolbar.



Microsoft Outlook

By Helen Bradley

FLAG ITEMS NEEDING ATTENTION

The new 'Quick Flags' tool in Outlook 2007 lets you categorise things needing attention in different ways. When you receive an email requiring a reply, but not immediately, flag the message by clicking the 'Flag Status Indicator' to the right of the email in your Inbox. One click of the marker turns the flag red and adds it to your 'To Do' list for attention today. To change the due date, in either the 'To Do' list or in the 'Flag Status' column, right-click the flag and choose a different due date. To add a reminder to the task, right-click the flag, select 'Add Reminder' and configure the options. Outlook 2007 carries forward uncompleted tasks, making flags a handy way to keep track of everything that needs to be done.

WORKING ACROSS TIME ZONES

When you're working with others who live in different Australian time zones or who are overseas, Outlook can help you schedule events correctly so you don't mess up. When you're creating an appointment or scheduling time with someone in a different time zone, in the 'Create New Appointment' dialog, type the planned time in the other location and click the 'Time Zone' icon on the toolbar. Choose the other person's local time zone; for example, for the US west coast, select 'Pacific time (US and Canada)'. The meeting time you have agreed to will be added into your calendar at your local time and day, with correct allowance made for the different time zones and daylight savings times.

SORTING INCOMING EMAIL

When you receive a lot of mail, Outlook can help you sort it automatically using Rules. To create a rule, go to Tools —> 'Rules and Alerts' —> 'New Rule'. Select what you want to do; for example, move messages from a particular person into a separate folder. From step 2 of the dialog, click the underlined options in turn and select the matching entries, such as the person whose email you want to move and a folder to move them into. In most cases, you can select from a list or add a new person or folder using the dialog options. Click Next to specify any additional options. Click Next and configure exceptions to the rule; for example,

By selecting days of your choice you can see what you want in your Outlook Calendar.

you can choose to move all messages except those flagged as important or that have particular words in the subject line. In the final step, type a name for the rule, describing what it does, and ensure the 'Turn on this rule' checkbox is enabled. Click Finish and the rule will be run automatically on incoming mail.

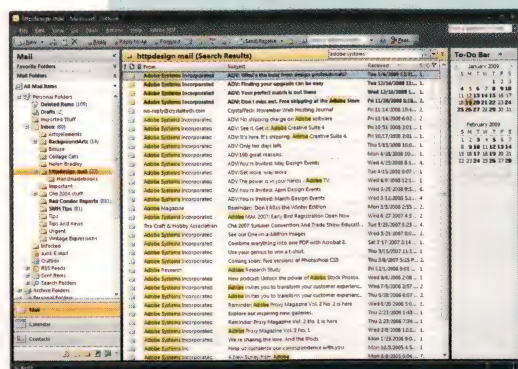
YOUR CALENDAR YOUR WAY

In Outlook you're not limited to seeing the Calendar the way Outlook wants you to see it. Instead, you can select Day view and then Ctrl-click on other days in the date selector to view a series of noncontiguous days side by side. For example, if someone wants to meet with you on an upcoming Tuesday, you can select two or three Tuesdays in turn and view them on the screen side by side.

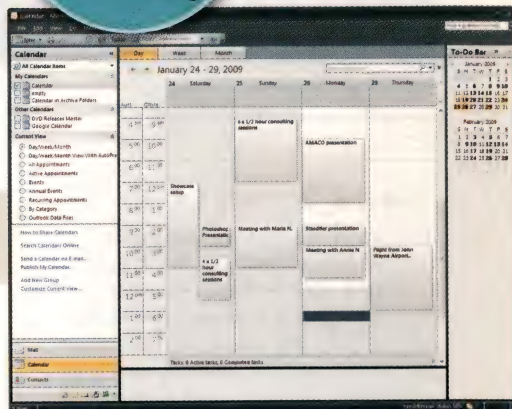
DESKTOP SEARCH

Outlook 2007 includes improved desktop searching. To find emails, type the words to search for in the Search box above the email Inbox. As you type, Outlook will begin to search for matching emails and display the results as it finds them, so you don't need to finish typing before it goes to work. In Vista, Outlook Search is integrated into the desktop search engine; however, if you're using Office 2007 on a Windows XP computer, you'll need to download and install Windows Desktop Search to use the search as it was designed in Outlook 2007. To download it, go to <http://tinyurl.com/37hn2q>.

The new Outlook search tool finds matching emails as you type your search criteria.



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EXPERT TIPS



BACK UP OUTLOOK

Like earlier versions, Outlook 2007 doesn't provide a built-in automatic backup tool, but there is one from Microsoft you can download. Visit <http://tinyurl.com/4s68u> and download and install the Outlook Personal Folders Backup tool, which is compatible with Outlook 2002, 2003 and 2007. When it's installed, a new Backup option will appear on your File menu. Be aware that this tool only backs up your .pst file, so Rules and Junk Email lists aren't included. To export Rules to a file, go to Tools —> 'Rules and Alerts' —> Options —> 'Export Rules'. To save your 'Safe Senders' and 'Blocked Senders', click Tools —> Options —> Preferences tab —> 'Junk Email' —> 'Safe Senders' —> 'Export to file'. You can do the same for 'Safe Recipients', 'Blocked Senders' and so on, and then make sure to include these files in your regular backup routine.

DESKTOP NOTES

The Outlook Notes tool is a handy way to create notes on your computer, which can function much as sticky notes do on your desktop. Create Notes in Outlook and drag and drop one onto the Windows taskbar, where it will appear with a small sticky note-style icon. Even if Outlook isn't open, you can double-click the Note to view its contents.

MAKING A LIST

When you need to email lots of people at once, create a distribution list in Outlook. Select Contacts, go to New —> 'Distribution List' and type a name for it. Click 'Select Members' and to choose names from your Contacts list, double-click a name to add it to the Members area of the dialog. When you're done, click OK. Click 'Add New' to add a new person to your list — if you click the 'Add to contacts' checkbox, they'll also be added to your Contacts list. When you're done, click 'Save & Close'. In future, to email your list, add the list name to the Bcc: line of an outgoing email and your name in the To: line. This lets you send the message to everyone, but keeps the recipients' names hidden from others.

Other Microsoft apps

By Helen Bradley



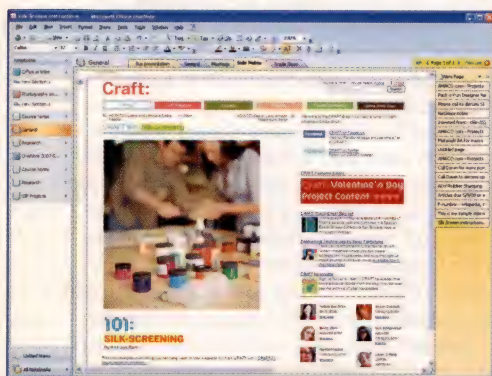
_SAVE A TABLE

Quite often when you're working on a publication in Publisher, you'll need to create a table to display your data. When you do this, it makes good sense to reuse that table format the next time you create a table to maintain consistency across the publication itself and across your organisation's publications. This consistency helps make the publication look more professional and as an added benefit, it saves you having to come up with a new design for each table.

When you've finished creating your table, select it and in Publisher 2007, go to Insert → 'Add to Content Library'. Type a title for the object and click a Category to save it into. If desired, click 'Edit Category List' to create a new category to save it in and then click OK. In future, to use the object in any publication, click Insert → 'Image from Content Library', select the Category and drag and drop the object into your publication. It behaves like any other object, so you can drag it into place and then replace the text with the new table content.

_ALIGN OBJECTS WITH PRECISION

Publisher has some handy options for aligning objects neatly on a page. For example, to distribute items equally across the page, place one object at the rightmost position and the second at the leftmost position. Select these and all the objects between them, right-click and choose 'Align or Distribute' → 'Distribute Horizontally' (or 'Distribute Vertically', depending on your needs). To ensure that all the objects line up, leave them selected, right-click and select 'Align or Distribute' → 'Align Top' so that their top edges are neatly arranged.



Save tables to the 'Content Library' so you can use them elsewhere in a publication and in new ones.

It's also possible to align objects relative to a guide. To do this, drag a guide from one of the rulers and position it on the page. Ensure the 'Snap to Guides' option is selected by clicking Arrange → Snap → 'To Guides'. Drag an object close to the guide and it will automatically snap into position. To adjust an object a very small amount use Alt-up arrow (or one of the other arrow keys) to move the object as little as one pixel at a time.

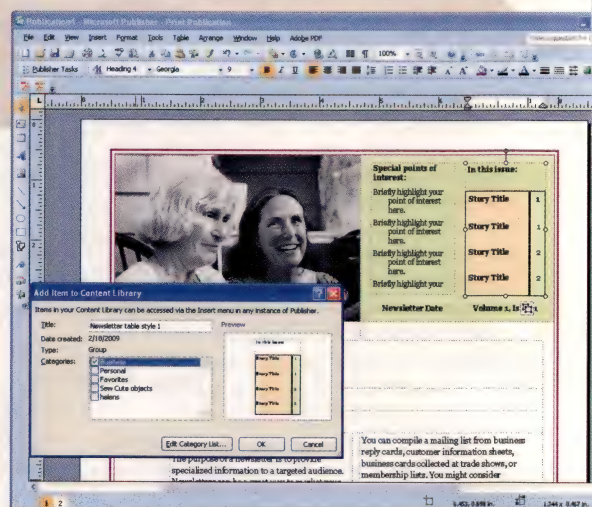
_CLIPS IN ONENOTE

As well as being able to send a web page from Internet Explorer to OneNote 2007 by clicking Tools → 'Send to OneNote', it's also possible to take a screenshot from your browser and add it to a OneNote notebook. To do this, click the Clip button on the toolbar and OneNote will disappear, leaving the current Windows screen in front of you (it will be lighter than usual, indicating you're in Clip view). Click and drag over the area of the screen that you want to add to your OneNote notebook. OneNote will then grab the screen and insert it as an image into your notebook page with a reference to the original page URL. If there's text in the screenshot, you can right-click it and choose for it to be searchable. In future, if you search for a word in a notebook and it appears in the screenshot, it will be highlighted.

_CREATE MORE SPACE

If you need to add extra space to a OneNote page, click the 'Insert or Remove Extra Writing Space' button on the toolbar and click and drag where the extra space should appear on the page. This tool works in both a horizontal and vertical direction. You can also close up space on the page by clicking with the tool and dragging in the opposite direction. If you want to remove space, the tool works best when shrinking the page lengthwise and not when you're trying to reduce the width of the page.

You can take a screenshot of a browser page and make it searchable to find text in it.



_WORKING WITH SIDE NOTE

To enable OneNote's Side Note feature, go to Tools → Options → Other, select the 'Place OneNote icon in the notification area of taskbar' checkbox and click OK. You can quickly create a Side Note by right-clicking the OneNote icon and choosing 'Open New Side Note'. This dialog gives you quick access to a mini OneNote notepad. Ensure that the pushpin icon second from the left on the toolbar is enabled and the mini notepad will stay positioned on top of the screen, allowing you to create notes as you work. When you close the dialog, the Side Note will be written to your OneNote notebook in the 'Unfiled Notes' area as a new page. To ensure that the Side Note has a recognisable title, make sure the beginning text is what you want to appear in the title area.

_TABLES IN ONENOTE

When you need to create tabular information in OneNote, you can create a table on the fly as you type. To create the table headings, type each heading word, then press Tab to create the next heading and a cell will be automatically created for you. When you press Enter, the cursor will automatically move to the beginning of the second row of cells in the table. If you need to add multiple lines of data in a single cell, press Enter at the end of the first line to continue in a new line without creating a new row in the table. To add a new row press Ctrl-Enter, and to delete a row, click in the row until the small Move icon appears at the left of the table row. Click this icon to select the entire table row and press Delete to remove it.

Google Docs

By Helen Bradley

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EXPERT TIPS

_DOCUMENT COMMENTS

When you're collaborating with others on documents or simply want to note something that needs attention later on, use a comment. To do this, click where the comment should appear, go to Insert → Comment and a comment indicator will appear in that position. Type your text where indicated. Click on the comment to view a shortcut menu that lets you change its colour, so you can colour code your comments by their content: questions, notes, references and so on. Later on, when the comment is no longer needed, click in it and choose 'Delete Comment' to remove it, or select 'Insert comment text into document' to add the comment at the current position.

In a similar way, you can add comments to a spreadsheet cell. A small marker will appear in its top-right corner, indicating there is a comment in the cell. Hold your mouse pointer over the marker to see the comment. Right-click the cell and select 'Delete Comment' if it's no longer required.

_LIVE SHARE PRICES

Using the formula **=GoogleFinance**, you can include a live reference to online share data in a Google Docs spreadsheet. The formula takes a symbol and the attribute to look up. For Australian shares, use the ASX symbol for the shares and prefix it with **ASX:** to indicate it's an Australian stock exchange price you're checking. To look up the price, use the attribute **'price'**. So, to check the value of your National Bank Shares, use this formula: **=GoogleFinance('ASX:NAB', 'price')**.

Make sure to format the cell as currency or another appropriate numerical format so you'll see the price details. Other attributes include **'volume'** to track the number of shares traded this day, **'high'** and **'low'**, and **'high52'** and **'low52'**, which display the highest and lowest price today and the 52-week high and low for the stock. Use **'change'** to see the difference since the previous day's close. You can use up to 250 instances of this function in a single worksheet.

There's also a function you can use to look up data on Google. The function is **=GoogleLookup('entity', 'attribute')**, where the *entity* is a person or country and the *attribute* is what you're looking up. For example, you can check the population of Australia by typing **=GoogleLookup('Australia', 'population')**. You can check the distance between the sun and the planet Mercury with this formula: **=GoogleLookup('Mercury', 'Distance from Sun')**.

You will find more information about

The **=GoogleFinance** formula lets you obtain current share pricing from Google Finance.

entities and attributes at <http://tinyurl.com/66rj6n>. While the formulas don't always return results, it's an indication of the potential power of using formulas in spreadsheets to capture data from the web.

_FROM EMAIL TO DOCUMENTS

One new feature of Google Docs is its ability to convert an incoming email message into a document automatically. You'll need to set up this feature in Gmail to do this. Visit the Gmail mail interface, go to Settings → Labs, locate the 'Create a Document' entry and set it to Enable. Click 'Save Changes' and you can then create a document from any email using the 'Create a Document' link that appears in the top-right of the email message window.

If you're not using Gmail as your mail client, you can still convert an email message into a Google Docs document. From inside Google Docs main switchboard area, click the Upload link. The page that opens contains an area titled 'Email in your documents and files'. Here you'll find an email address, which is your own custom email address for submitting documents to Google Docs. Since it's long and complicated (to protect it from spam), copy and paste this as a new contact entry in your email program. In future, you can forward any email to this address, or

attach a supported document type to an outgoing email sent to this address, and it will be created as new document in Google Docs on receipt. When the email is received and the document created, you'll receive an email confirming this has been done. The feature works with documents only, not spreadsheets or .pdf files.

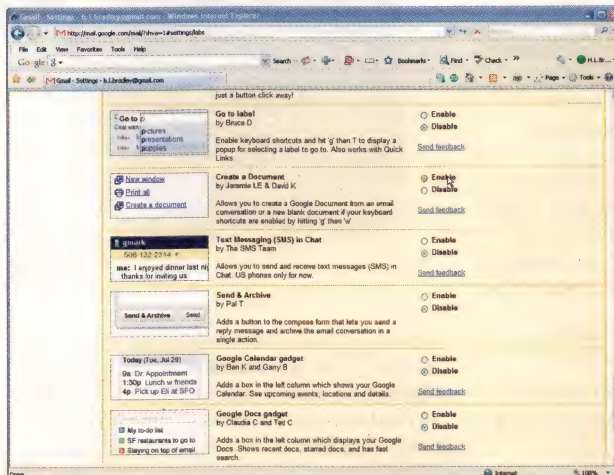
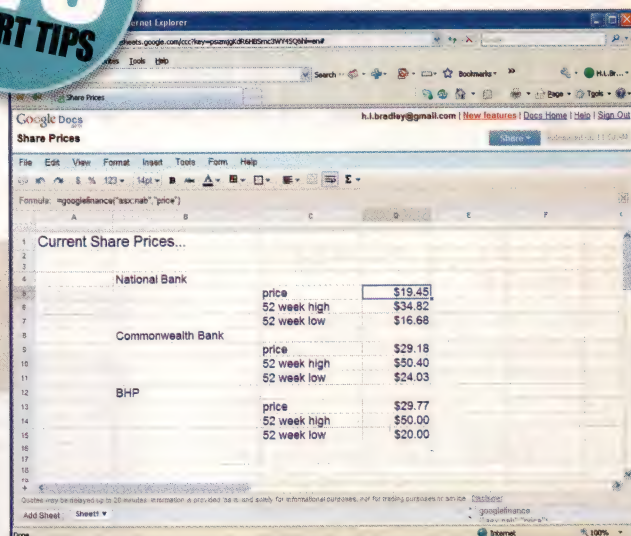
_IN-CELL CHARTING

When you don't need the complexity of a chart to help display your worksheet data, but when you do want to see some visual indication of the scope of the worksheet values, you can create an in-cell chart. Using the **=REPT** function, you can repeat a character such as the pipe (|) symbol or an asterisk (*) a number of times in the cell. For values of up to 20 or so, you can fill the cell with characters equal to that number. For larger numbers you may need to divide by 5, 10, 20 or 100 or more to reduce the values to more reasonable numbers for the in cell chart.

For example, if the number you want to plot is in cell D5, this formula entered in cell E5 will give you a visual plot of that data: **=REPT('|', D5)**. If you have very large values, you can use this as the formula to reduce the size of the in-cell chart: **=REPT('|', D5/100)**.

These in-cell charts are a good choice for simple visible comparisons of values. You can copy the formula down a column and the resulting formulas will chart the values in the cells in the column to the immediate left.

You can configure Gmail so you can create Google Docs documents from any email.



OpenOffice.org

By Helen Bradley



SPECIALTY NUMBER FORMATS

When you need a special number format, such as one that adds the letters kg to a cell containing weights, do this with a custom number format. Go to Format → Cells and in the 'Format Code' area, replace the current entry with `#.00 'kg'`. This formats the value to two decimal places and adds kg after it, but still ensures that the number behaves like one so you can use it in calculations.

ANIMATIONS IN PRESENTATIONS

You can create animated text and image effects for your slideshows using the Animations task pane. To do this, click the Text tool and type some text onto the slide. Click on the text object to select it and go to Slideshow → 'Custom Animation'. From the 'Modify Effect' area of the 'Custom Animation' task pane, click Add and choose an animation entrance option, such as 'Colored Lettering' from the Moderate category, and then set the speed. Click 'Automatic Preview' and you'll see the effect applied to the text. Click OK and then, if you want the effect to play immediately when the slide is visible, from the Start drop-down list choose 'After Previous'. This will ensure that as soon as the previous event occurs (the slide displaying), the text will animate. To view the presentation, go to Slideshow → Slideshow and check that it works as expected. You can use a similar process to animate images.

FANCY TEXT WITH FONTWORK

You can add interesting text effects to your documents using the FontWork tool. Click the FontWork button on the Drawing toolbar, choose a shape for the text and click OK. When the FontWork object appears in the document, type your text in place of the anchor text. Use the tools on the FontWork toolbar to alter the look of the object, such as changing its shape, the spacing between the letters and the letter heights themselves. To adjust the font, select the text and choose an alternative font. If you're using OpenOffice.org 3, you'll need to Ctrl-click on a FontWork object to select it.

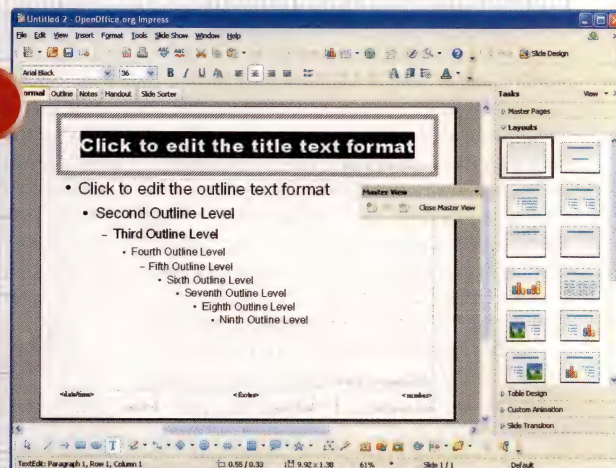
CALCULATIONS IN A DOCUMENT

If you need to make a calculation inside a document, you can do so using a formula. The beauty of this technique is that the

stepbystep SLIDE MASTERS IN IMPRESS

Use slide masters to apply a consistent format to all your slides. To make a custom slide master, create a new presentation and go to View → Master → 'Slide Master'. The slide master will appear in the slide editing area. To modify it, click on any element in it and adjust the fonts, font size or placement on the slide.

1

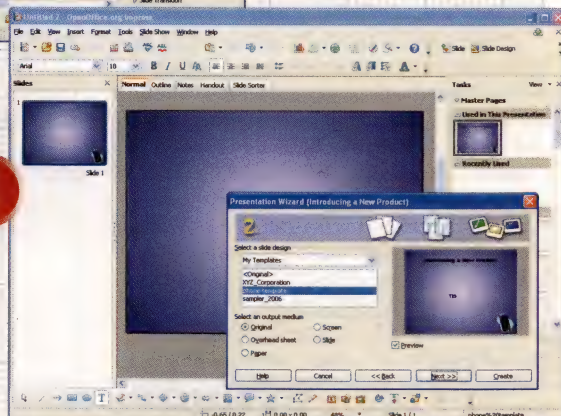


2

You can also add images to a slide master, such as clip art, your company logo or a photo, and also change the slide background. When you're done, click the 'Close Master View' option on the toolbar to return to slide editing.

The slide master will be applied automatically to the first slide. Save the presentation as a template using File → Templates → Save. You can then use your custom slide master template in any presentation you create in the future.

3



formula displays the result inside your document, so you can edit the formula and it will recalculate to show the correct result. To do this, press F2 to display the formula bar. Type a formula, such as the following,

and click Apply: `= (40/5*9)+32`. This converts 40° Celsius to Fahrenheit and the result will appear in the document — it has a grey background to show it's a calculated field. To change the formula, click it and press F2.

Other applications

By Helen Bradley

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EXPERT TIPS

QUICK FIXES IN PAINT.NET

Paint.NET (www.paint.net) supports layers, which let you apply quick fixes to your images. For example, to lighten an underexposed image, display the Layers palette (Window → Layers) and click the 'Duplicate Layer' button in the tool collection at the foot of the palette. Select the top layer you just created and click the Properties button at the bottom of the Layers palette to open the 'Layer Properties' dialog. From the 'Blending Mode' drop-down list select Screen and adjust the Opacity slider to reduce the impact of the effect until you have a nicely exposed image. Click OK. If the fix isn't strong enough, leave the Opacity setting at its maximum value and duplicate the topmost layer again. Continue until the image reaches the desired level.

Likewise, you can recover detail from an overexposed image by duplicating the layer as you did previously, but this time instead of selecting the Screen blending mode, choose Multiply. The Multiply blend mode darkens the image, which helps you recover much of the blown-out detail from it. When you're done, click the 'Merge Down' button at the foot of the Layers palette to merge the layers.

Overlay is another blend mode that can help you punch up the colours in your image. You use this like the other blend modes by duplicating the image layer and then applying it to the top layer. Overlay is a mix of the Multiply and Screen blend modes, and it enhances the colours in the image. It applies the Multiply blend mode to all values greater than 50% grey, and the Screen blend mode to all values less than 50%.

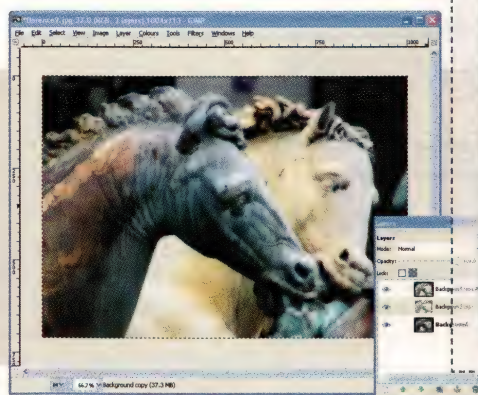
STRAIGHTENING IMAGES IN PAINT.NET

To straighten an image in Paint.NET, if the image is on a single layer, go to Layers → 'Rotate/Zoom' and in the 'Roll/Rotate' area in the top-left of the dialog, drag down or up on the blue bar to rotate the image until it's straight. Click OK. You can then crop the image using the Rectangle Select tool to drag a marquee over the area of the image you want to retain. Click the 'Crop to Selection' button on the toolbar to crop the image.

ORTON EFFECT IN GIMP

Photographer Michael Orton developed a photographic process for creating somewhat ethereal images using a combination of two slightly overexposed images, one of which is out of focus. You can create the same effect

This ethereal image replicates an effect pioneered by photographer Michael Orton.



digitally using GIMP (www.gimp.org). To do this, open an image and go to Windows → 'Dockable Dialogs' → Layers to display the Layers palette. Duplicate the background layer by clicking on it and selecting Layer → 'Duplicate Layer'. Repeat this to create a second version of the background layer and set the blend mode of the top layer to Screen. Right-click the top layer and choose 'Merge Down' to merge the layers into one. Right-click this layer, select 'Duplicate Layer' and set its blend mode to Multiply. Still with this top layer selected, go to Filters → Blur → 'Gaussian Blur'. Set the blur radius to around 10 pixels and click OK. For a smaller image, a 6-pixel blur may be sufficient, but you'll need a larger value for a larger image. The end result should be an image that shows some glow and out-of-focus areas, but with some pleasing edge detail.

CREATING BRUSHES IN GIMP

To create a new custom brush in GIMP, make a new file the size of the brush by clicking File → New and typing the desired width and height. Click 'Advanced Options', set the 'Fill

With' option to Transparency and click OK. Create the design you want to use for the brush. Select the image (Select → All), then go to File → 'Save As' and from the 'Select File Type' drop-down list, select 'GIMP Brush'. Type a name for your brush and save it to C:\Program Files\Gimp-2.0\Share\Gimp\2.0\Brushes folder, which you can navigate to using the 'Browse for other folders' option. Click Save. If prompted to set the Spacing, leave it at the default value for now.

To use your brush, go to Window → 'Dockable Dialogs' → Brushes, click the 'Refresh Brushes' icon in the bottom-right of the palette and your brush will appear in the list. Click it to select it and then you can paint on the image with it.

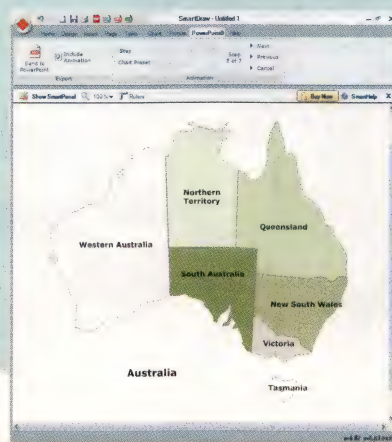
ANIMATING CHARTS IN SMARTDRAW

If you're creating illustrations in SmartDraw (www.smartdraw.com) to later export to PowerPoint, you can pre-animate them in SmartDraw and they'll stay with the chart or drawing when it's exported to PowerPoint.

To animate a chart, click the PowerPoint tab and select a sequence from the 'Chart Preset' drop-down list. The sequence controls how the chart appears and you can choose from sequencing by series, category, data points or data points by series. Click Preview to view the current sequencing and click Next to move forward step by step through the animation. When you're done, click the PowerPoint tab, enable the 'Include Animation' checkbox and click 'Send to PowerPoint'.

Other diagrams can be sequenced manually. Finish the diagram, click the PowerPoint tab and start by selecting an object from the diagram. From the Step drop-down list, choose which step to assign that item to: 'Step 1' appears first, 'Step 2' second and so on. Continue selecting objects in your diagram and assigning them to the various steps. Click the Preview button and

Using the PowerPoint options, you can animate a drawing in SmartDraw and then send it automatically to PowerPoint.



PDFCreator lets you determine how the images are compressed so you can minimise the size of your web files.

play the animation to check its progress. When you have the diagram animated, click to send it to PowerPoint.

CREATING SHAPES IN SMARTDRAW

While SmartDraw contains thousands of symbols you can use in your diagrams, you may need to create some of your own to meet specific needs. To do this you can draw your own shape.

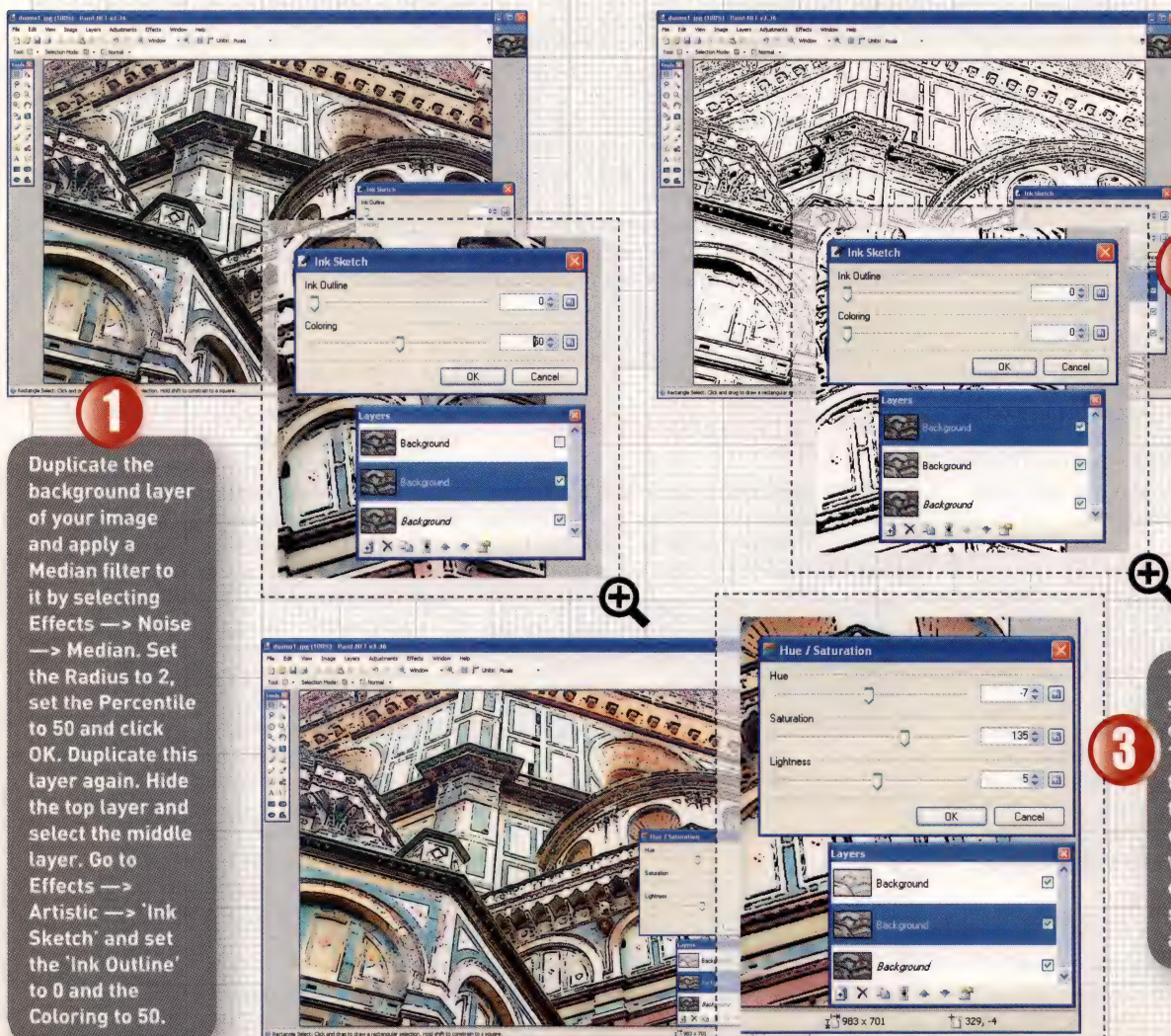
For example, for a shape that has straight lines, go to Home → Line → 'Polygon Line tool' and click at each of the corner points for your polygon shape. Each of the lines contains a small hollow diamond shape indicator, which is its adjustment handle. Drag on this indicator to curve the line at this point (either inwards or outwards). If you click outside the shape and then click it again, the diamonds will turn into filled diamonds, which you can drag on to change

the position of the line, but not its curve.

To return to editing curves, click the shape and go to Design → 'Change Shape' → 'Edit Shape Outline'. When the hollow diamonds appear, you can right-click a diamond, select 'Change Segment Shape' and choose one of the options — such as Parabola, 'Circular Arc', 'Quarter of an Ellipse' or Line — and then drag it to make the shape. To add extra lines, Ctrl-click on the line where the extra node should appear and you can then move and shape it as desired. When you're done, click outside the shape to deselect it.

More complex shapes can be created using multiple shapes. Select all of them, right-click and select 'Group Objects' to create a single object. To add the completed shape to a library, first create your own library for your shapes. Click the SmartDraw button, go to Utilities → 'Create Library', type a name for your library and click OK. Find your library in the 'My Symbols' folder

stepbystep CREATE A WATERCOLOUR IMAGE IN GIMP



1 Duplicate the background layer of your image and apply a Median filter to it by selecting Effects → Noise → Median. Set the Radius to 2, set the Percentile to 50 and click OK. Duplicate this layer again. Hide the top layer and select the middle layer. Go to Effects → Artistic → 'Ink Sketch' and set the 'Ink Outline' to 0 and the Coloring to 50.

2 Click the top layer and make it visible. Go to Effects → Artistic → 'Ink Sketch', set the 'Ink Outline' and Coloring to 0, and click OK. Set this layer's blend mode to Screen and its Opacity to around 30.

3 To brighten the colours, select the middle layer, click Adjustments → 'Hue/Saturation' and drag the Saturation slider to the right to brighten the colours as desired. If you want slightly different colours, drag the Hue slider until you achieve a more artistic result.

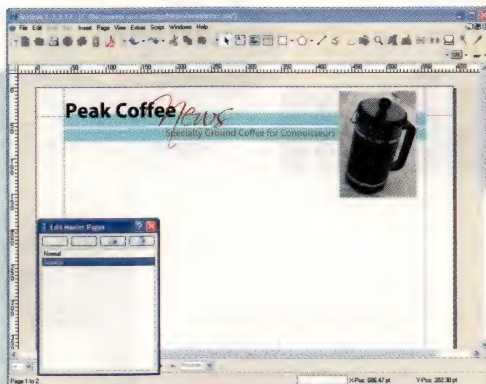
and open it. To save the shape, drag and drop it into the library and it will be handy anytime you need to use it.

MASTER PAGES IN SCRIBUS

Like most desktop publishing applications, Scribus (www.scribus.net) uses master pages as the basis for the page design. It's a good idea to add to your master pages those items that you want to appear on every page, such as page numbers, your company logo and elements such as title bars and dividers. Putting these on the master pages saves you from having to place the objects on every page in your document, and ensures they stay in one place and don't move — items on the master page are protected from changes when you're working on the page itself.

To add a page number to a master page, add a text frame where you would like the page number to go, right-click and select 'Edit Text'. Go to Insert —> Character —> 'Page Number' and repeat this to add a second page number character if your document is likely to exceed nine pages.

To create a master page, start a new document and go to Edit —> 'Master Pages' to display the 'Master Pages' dialog — at the same time, the program will move into editing mode for master pages. Click the 'New Master Page' button in the dialog, type



Create elements that will be repeated on all pages of your publication in the 'Master Pages' area.

a name for it and click OK. If you're creating a document with facing pages, you'll need to create one master page for the left pages and one for the right pages. Add to the various master pages the details and elements you want to appear on each page. When you're done, close the dialog and return to editing the actual document. To apply the master page to the current page, select Page —> 'Apply Master Page', select the master page from the drop-down list and click OK.

An alternative to creating a master page from scratch is to create one from an existing document. To do this, open the document and move to a page to use. Go to Page —>

'Convert to Master Page' and type a name for it. You can then go to Edit —> 'Master Pages' to locate and edit this master page; for example, remove from it any content that shouldn't be there.

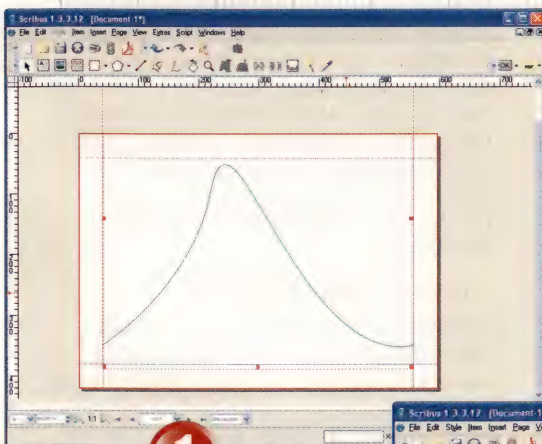
PDFs FOR THE WEB

The open-source application PDFCreator (<http://sourceforge.net/projects/pdfcreator/>) lets you create PDFs for web use. When you do this, you'll want to optimise the PDF for

web viewing. When you send the document to the PDFCreator and when the 'PDFCreator Print Monitor' dialog appears, click the Options button for the selected document and go to Formats —> PDF. Click 'Fast Web View' and the file will be saved so it will open in a browser ready for viewing, even before it's completely downloaded.

To ensure images are highly compressed for screen viewing, click the Compression tab and select the compression settings for colour and greyscale images. If you choose 'JPEG-Medium', for example, you can set the program to resample the images to make them much smaller — if desired, as low as 72dpi for best onscreen viewing. These settings are sticky, so you may need to change them for the next document if it's not destined for web viewing.

stepbystep CREATE CURVED TEXT IN SCRIBUS

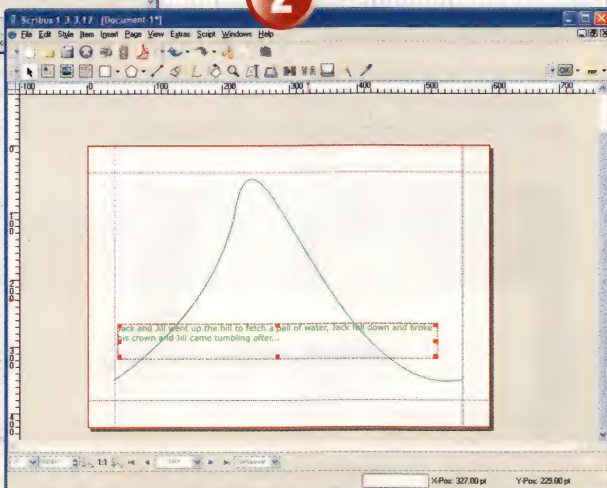
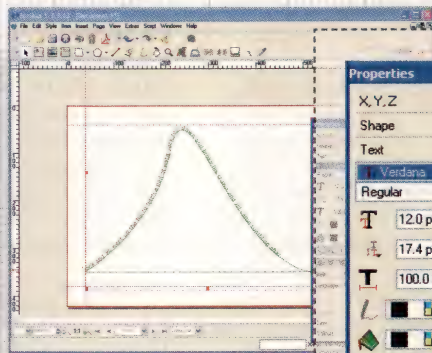


1

To begin, create a shape along which to align the text. You can do this by converting a regular shape to a Bezier curve, or by drawing a curve using the Bezier Curve tool. If you start with a shape, make sure you right-click it and select 'Convert to' —> 'Bezier Curve' before you begin.

Add a text frame to the document and type the text you want to attach. Select both the shape and the text frame and go to Item —> 'Attach Text to Path'.

2



3

Once the text is applied to the shape, you can format the text using the Text tab in the Properties palette for the shape — right-click the shape and select Properties to locate the options. To change the shape of the path, go to Properties —> Shape —> 'Edit Shape' and drag on the nodes.



Web design

By Helen Bradley

_CREATING JUMP LINKS

Jump links are hyperlinks on your web page that visitors can click to move to another part of that page. To create a jump link in Dreamweaver, start by clicking where you want to move your visitor to. Go to Insert → 'Named Anchor' and type a name for the anchor (use a single word and no spaces). To create a link to the anchor, return to the place on the page where you want to create the link, select the text or image to link to and click the Hyperlink button on the toolbar (if it isn't visible, click Window → Insert to display it). When the Hyperlink dialog appears, choose the anchor you just created from the Link box. The anchor name will be prefixed with a hash symbol, which is the naming convention used when referring to anchors.

You can have multiple links on a page all pointing to a specific anchor, and you can create multiple anchors. Jump links are a good way to move your users around a very long page; use them at the top of the page to link to key topics that appear lower down on the page (which may be out of sight when the page loads) and place them at intervals down the page, linking back to the top of the page.

_LIMIT YOUR STYLES

When you're formatting a web page using CSS, you can change the look of a tag like **h1** in a way that limits the changes to just a particular area on your site. To do this in Dreamweaver, start by wrapping that area in a **div** tag if it's not already in one. Select the area and go to Insert → 'Layout Objects' → 'DIV Tag'. Check that 'Wrap around selection' is selected and in the ID field, type a unique identifier such as **maintext**. To create the new look for the **h1** tag, click in the area you just created the **div** tag for and click the 'New CSS Rule' button at the foot of the CSS panel. From the 'Selector Type' options, click Advanced and remove all the ID information in the Selector line, except for the one you just created, and enter the tag to change the look of. For example, the Selector to change the **h1** tag in the **div** named **maintext** would read: **#maintext h1**. Click OK and redefine the header style using the 'CSS Rule Definition' dialog. In future, any **h1** heading you create inside the area surrounded by the **div** tag will

look this way, and any other **h1** heading will be formatted with the default style for all **h1** tags.

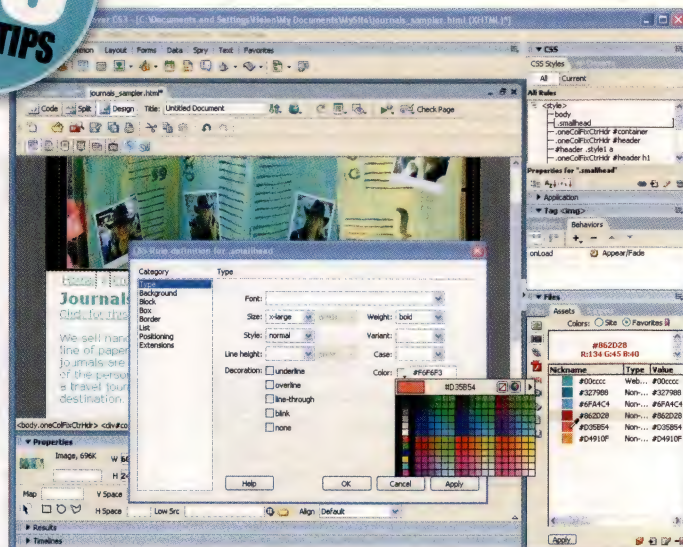
_WORKING WITH BEHAVIORS

Dreamweaver comes with built-in Behaviors that help you add functionality to your web pages — often ones that would otherwise require complex coding. One handy Behavior is the image preloader, which loads images in the background so they'll be available later from the browser's cache, rather than having to be downloaded. For example, if you have a page with some large images, you can set them to be preloaded from your home page. This will speed up the page loading later on for visitors who enter via your home page. Anyone who enters another way can still see the page, it just won't load as quickly.

To preload images, open the page you expect visitors will come to before the page that has the larger images on it. View the page in Code view and click inside the **Body** tag — you need to do this so you force the Behavior to run when the page loads. In the Behaviors panel, click the 'Add Behavior' icon (the plus sign) and choose 'Preload Images' to display the dialog. Click Browse, locate the first image and click the 'Add Item' button. Continue to add all the images to preload. Click OK and check that the event opposite the Behaviors in the Behavior panel is set to **onLoad**.

_SHOW OR HIDE ELEMENTS

Another handy Dreamweaver Behavior lets you show or hide an element when another element is clicked. To do this, first add a clickable link to your page — it should be



When you add colours to the Assets panel, you can sample them from the panel when creating a style.

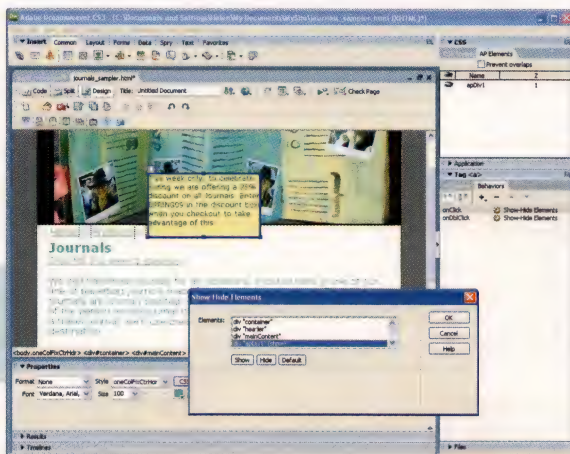
a dummy link, such as **href="#"**. Add the text or image you want to show or hide in an **AP Div** tag (go to Insert → 'Layout Object' → 'AP Div' to add it to the page). Click the link, click the 'Add Behavior' button from the Behaviors panel and choose 'Show-Hide Elements'. From the list that appears, locate the **AP Div** tag you just created, set it to Show and click OK. In the Behaviors panel, click the drop-down arrow to open the Event list and select an event such as **onClick**. To hide the element, repeat the process, this time setting the **AP Div** tag to Hide and choosing a different event, such as **onDblClick**. So the page will work as it should, you must hide the object when the page loads. To do this, click the **AP Div** tag and from the Properties panel, set the Vis property to Hidden. You can then test the Behavior by previewing the page in your browser.

_FADE AN IMAGE

Spry effects allow you to create all sorts of interesting effects for your page, including fading an image in or out. To do this, first add the image to the page, size it and place it in position. Select the **img** tag in Code view and

go to Insert → 'Layout Object' → 'Div Tag'. When the dialog opens, make sure it's set to 'Wrap around selection' and type a unique ID for the **Div** tag. Locate the Behaviors panel and click the 'Add Behavior' icon. Click Effects → 'Appear/Fade' and select the ID tag for the **Div** element you just created. When the dialog appears, select the options for the effect; for example, you can have it appear in from 25% to 100% opacity and set the time

Using Behaviors, you can show or hide an element on a page in response to an event such as a mouse click.



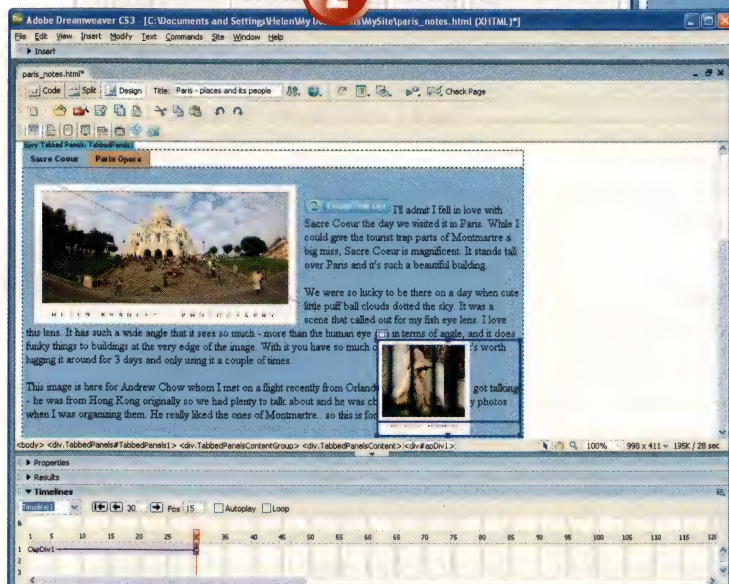
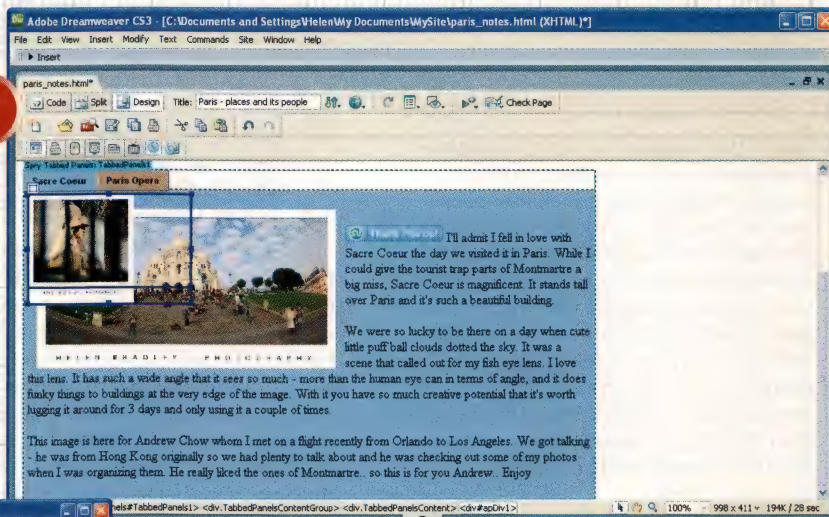
stepbystep ANIMATIONS IN DREAMWEAVER

Add an **AP Div** tag to the page by clicking **Insert** → 'Layout Object' → 'AP Div'. Add an image inside the tag. To display the timeline, go to **Window** → **Timelines**. Click the image to display the **AP Div** tag border, and drag and drop it onto the timeline at frame 1.

1

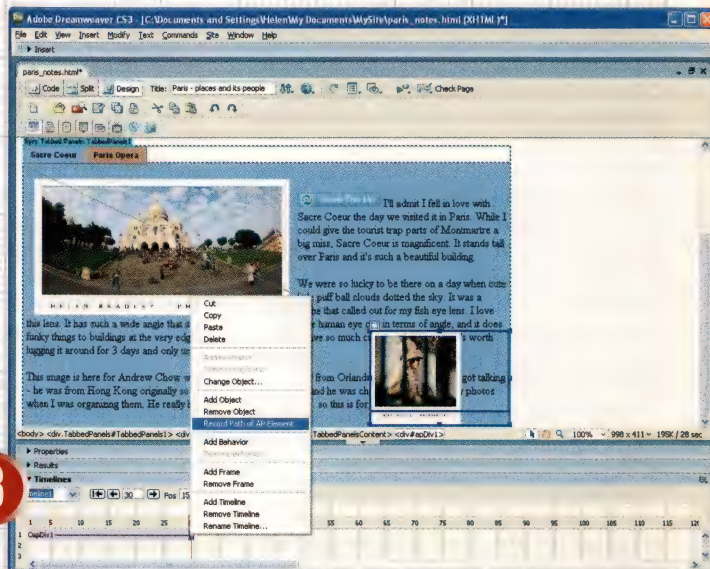
Click and drag the hollow end marker on the timeline to frame 30, so the animation will play for 30 seconds. Drag the **AP Div** border to a new position on the page. This animates the image so it moves from its initial position to the new position in the first 30 seconds after the page loads.

2



Click and hold down the **Play** button to preview your animation. To move the image along a path of your choice, click the frame to start, then right-click and select 'Record Path of AP Element'. Drag the image around the page to create the motion path.

3



for the effect to take (10,000 milliseconds is 10 seconds). When you're done, you'll see a message indicating that JavaScript is being added to your site — click OK to accept this. From the Behaviors panel, select the event that you want to trigger the Spry effect, such as onLoad. When you upload all the files to your web site and load the page, the image will fade in or out as you configured it to do.

UNDERSTANDING ASSETS

The Assets panel is where you can find items that are used on your site and where you can

access them to use them elsewhere. These items may include images, colours, URLs and multimedia files. To see your assets, go to **Window** → **Assets** and click the Site option button. Down the left of the panel are icons you can click to view the various assets in use.

These assets only appear in the list if they're in use on your site. If you remove one from a page, and if that's the only instance of that asset, it will be removed. If you want to ensure an asset is always available, you can store it in your Favorites area. Assets in the Favorites area remain there even if they don't exist on your site.

To create a Favorite from an asset, right-click the asset and select 'Add to Favorites'. In the Favorites area, you can give an asset a nickname by right-clicking it, selecting 'Edit Nickname' and typing a name for it.

One handy use for Favorite assets is for storing the colours you want to use on your site — you can give them descriptive names and find them easily when you need them. To grab a colour from the Assets panel and use it in a style, make sure the Colors area is open and visible before you create the style. Then, when you need a colour, sample it from your Assets.

Audio & video

By Philip Moore



On the cover DVD

You'll find a video tutorial on deinterlacing video footage along with the MPEG Streamclip program on this month's cover disc.

_ JUST TELL THE STORY

One of the principles aspiring filmmakers should learn is to avoid being arty and just tell the story. This principle applies to every stage of the process: when you're filming, when you're editing and even in the sound design. This holds true whether you're creating a feature film, a corporate documentary or a home movie. Be clear about the story you're telling and try to ensure everything serves that purpose. Anything that is being arty and clever for the sake of it just doesn't belong. All the tips that follow should be applied with this credo in mind.

_ DON'T USE TRANSITIONS

The only video transition worth considering on a regular basis is a dissolve (or cross-fade), as it can help visualise a passage of time, or show a connection between two shots. Anything else is usually just showing off and looks amateur. There's another kind of transition to think about, though, and a bit of forethought when filming can make all the difference here. Try to plan what the last shot of a scene or section is going to be and imagine how this will link with the first shot of the next section, providing a kind of visual intro and outro to each scene. You could pan the camera to the side or up to the sky, or start in close and pull back to reveal — there are lots of methods. Watch any well-made movie and see how they visually get from one scene to the next. This approach is far more elegant than using digital transitions like page curls or flying cubes.

_ WHEN TO CUT

There are a number of different things to consider when cutting a video — it's like a juggling act. We'll focus on just two here: rhythm and match-moving.

Cutting video has a rhythm all its own. Action sequences tend to be cut fast; thoughtful or languid sequences are cut more slowly, meaning the shots last longer and there are fewer cuts overall. The best way to know when a cut should be made is to feel it. Play the video and simply hit the spacebar to stop playback when you feel there should be a cut. Do this a few times and if you always stop in the same spot, that's where a cut should be. Of course, there are technical considerations that affect this choice (such as 'Do you have a shot to cut to?' or 'Does the continuity match?' and so on), but this approach will help you start cutting with a sense of rhythm.

Avoid using all those fancy transitions, unless you can honestly say they're motivated by your story.

When editing your video, it's best to cut on a move. That is, as the person sits down or starts to walk, you cut from one shot to the next — this is called a 'match move'. You can use match moves provided the continuity from one shot to the next is fairly consistent. Continuity is mainly an issue on dramatic films rather than documentaries. You need your performers to move the exact same way from shot to shot. Experienced actors do this instinctively. If the continuity is wrong and their arm is raised in one shot and down in the next, for example, the audience will notice it. You need to cut at a spot where the arm movement matches, which has an impact on the rhythm you're trying to establish. This doesn't matter on music videos or montage sequences.

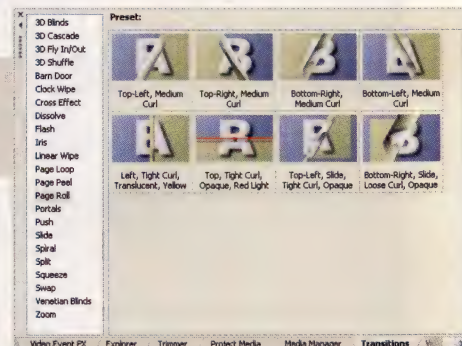
_ WHAT TO CUT

Every shot should be a captured moment in time. Find the moment that works best for the story and use only that. Cut out all the stuff that isn't important. Also, when cutting you need to ensure that each shot is different enough from the shot before and after it. An audience will accept a cut when the two shots are different in frame size or angle, but if they're too similar, you create what's known as a jump cut. This is a problem when filming an interview subject with one camera. What happens if you need to cut out a section? Simply cutting out a chunk of Q&A creates an obvious jump cut. One solution is to cut to something else briefly, like the interviewer nodding (a noddy shot), the subject's hands or something quite different in the room. You could even use a fast transition: a dissolve, a quick white flash or a wipe. This is one case where digital transitions can be useful.

_ INTERLACED OR PROGRESSIVE?

Video footage is either interlaced or progressive. We've explained these terms in some detail in previous issues, so what we'll cover here is how to convert your footage from one type to the other.

If your video is going to be shown on a computer (or streamed over the web), then make it progressive. If you're converting it to DVD to show on a TV screen, the choice is trickier. Many modern TVs can handle progressive-frame video, at least at certain resolutions. If you're confident yours does,



you can create a DVD with progressive video, as it will look sharper and more movie-like. However, if you need to ensure compatibility with all the DVD players and TVs out there (like Nanna's old CRT television), it needs to be interlaced.

Most DV cameras and many HDV cameras shoot interlaced video. If you have such a camera then just keep it interlaced from start to finish. If you want to turn this into progressive video, simply use a deinterlace filter. The simplest filters just throw away one field, losing half the image, and create a progressive frame from the remaining field, or just clamp the two fields together into a progressive frame. More sophisticated filters will combine the two fields and do some processing to smooth out the jagged edges that can appear. Some advanced video programs offer a deinterlace filter. Otherwise there are plug-ins from a range of third-party providers, like Boris or Red Giant, and some freeware utilities like MPEG Streamclip (from www.squared5.com or this month's cover disc), which can also do a good job.

_ HIGH-QUALITY AUDIO

The standard for digital video sound is 48kHz/16-bit. This covers the entire range of human hearing at a quality that is more than acceptable. So why do we have these higher resolutions, like 96kHz/24-bit? The thing is, when you start adding reverb, equalisation and other processes to audio, you need the headroom that higher-quality recordings give you to avoid distortion. It also provides for greater dynamic range (the difference between loud and soft sounds). While a sample rate of 96kHz records frequencies beyond the range of human hearing, it also ensures those frequencies we do hear are more accurately recorded. These higher resolutions are mostly used in music recording, but are becoming more common in professional sound design. It's worth noting that DVDs support these higher standards, but they're

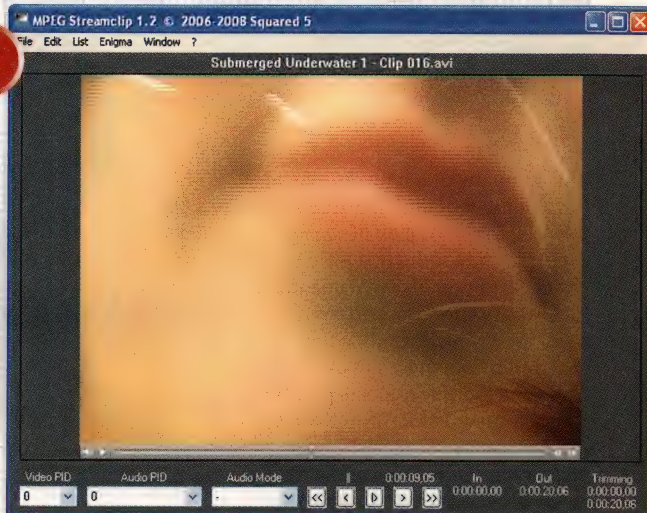
stepbystep DEINTERLACE VIDEO FOOTAGE

Install MPEG Streamclip from our cover disc. You may also need to install QuickTime Alternative (www.codecguide.com/download_qt.htm) if you're going to work with .mpg or .mt2 files, unless you have QuickTime Pro with the MPEG update installed.

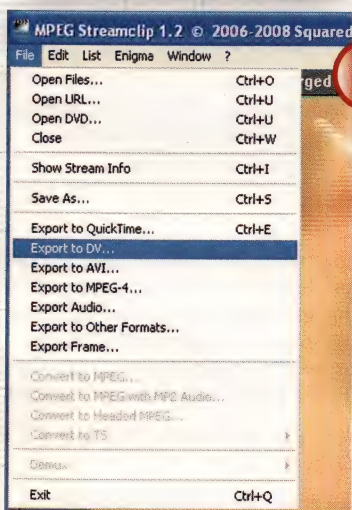
Load the clip you want to deinterlace. If you scroll to a frame where there's a lot of movement, you'll see the interlacing quite clearly.

From the File menu, select the Export option you want. You could convert to a different file format with a different compressor if you want, or select the same file type. Assuming your footage is DV, select 'Export to DV'.

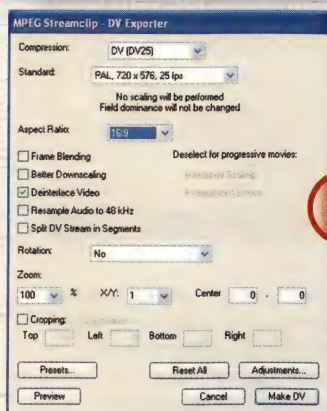
1



2



3



Change the aspect ratio to 16:9 if necessary and then check the 'Deinterlace Video' box. You shouldn't need to change anything else. This will save your clip as a DV file, which most video editing programs will understand. If not, choose the 'Export to AVI' or 'Export to QuickTime' options instead and set Compression to 'Apple DV - PAL', with Sound set to Uncompressed.

rarely used. On the other hand, Blu-ray discs use them as standard. For your home movies or wedding videos, stick with 48kHz/16-bit.

MAKE IT SOUND 3D

Aim to create a 3D sound mix for your movies. We're not talking about surround sound, but a stereo mix that has the illusion of 3D space. Start by using panning for left- and right-oriented audio, and spread out your sounds across the speakers. Dialogue or vocals are almost always in the centre, but sound effects, music and other sounds can be panned where appropriate. If you have a stereo file to start with (like pre-recorded music), place it in the centre and leave it alone.

The second dimension is created using reverb. This adds depth to a sound, making it sound further away. Stereo reverb can also be used to add width, so you can apply this instead of panning. Reverb is an important part of opening up a mix, but be careful not to apply too much — a little goes a long way.

The third dimension is created using volume levels and equalisation (EQ). Think of this as the vertical axis of your mix, as you layer your sounds and set their relative levels so that everything fits together harmonically. EQ can be used to alter the tonal characteristics of a sound when two sounds clash. For example, if the music is

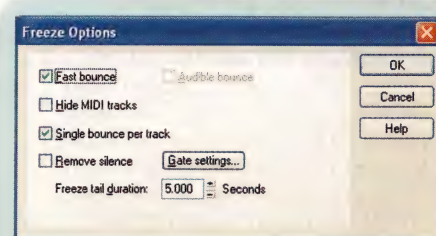
drowning out your dialogue, but you don't want to turn down the music because it'll sound weak, you can EQ the music so it dips at around 1kHz. This leaves a hole for the voice to cut through — the voice will be clearer and the music will still be at a good level. Use EQ in this way to ensure every element in your mix has its own place, and so they aren't all fighting for the same sonic territory.

DVD AUDIO VOLUME

There is no official standard for peak levels when mixing audio for DVD, but the common practice is between -20 to -6dB. So, when mixing your audio, ensure your average peak level is around -6dB. This is why DVDs tend to sound quieter than other sources. All DVDs are mixed at this quieter level, primarily to avoid digital distortion — remember, 0dB or higher means instant distortion.

USING REAL-TIME EFFECTS

VST and DXi effects are one of the best things about doing audio production on a computer. There are hundreds of effects around — some are quite expensive, while some are absolutely free. They can be applied and changed at any time without affecting



The ability to Freeze a track, its effects or its virtual instruments effectively pre-renders these processor- and memory-intensive tasks, but with the ability to unfreeze and make changes when desired.

your source audio file. The thing to watch out for is that every real-time effect you add eats up system resources and memory, and can increase latency (delay) in playing back your project. If your audio software starts dropping out a lot or behaving erratically, check how many real-time effects you've applied. One way around this problem is to use busses. If the same effect needs to be applied to several tracks, route the tracks to a bus and add the effect to this bus instead. Another solution is to Freeze tracks; this temporarily renders the effects to your audio, but it can be unfrozen if necessary. PC

Ripping & burning

By Darren Yates

_PERFECT MP3s

The company that handles official development of the MP3 audio codec has just released a new version of the format, called mp3HD, and for the first time it's a lossless codec. Traditionally, MP3 encoding uses what's known as a lossy technique when encoding files, in that audio data that's not absolutely crucial to the way our ears perceive music is tossed out; this provides greater compression and smaller file sizes. With mp3HD, no audio data is thrown away. You can download a free encoder (free for personal use only) and Winamp plug-in from <http://tinyurl.com/ccozwo>. Note that because it's lossless, there's far less compression and file sizes can still be quite high.

The real question is whether it's actually better than open-source alternatives such as FLAC. It'll possibly just come down to the amount of compression they can generate, not to mention that FLAC is free. You can grab it from <http://flac.sourceforge.net> and compare them for yourself.

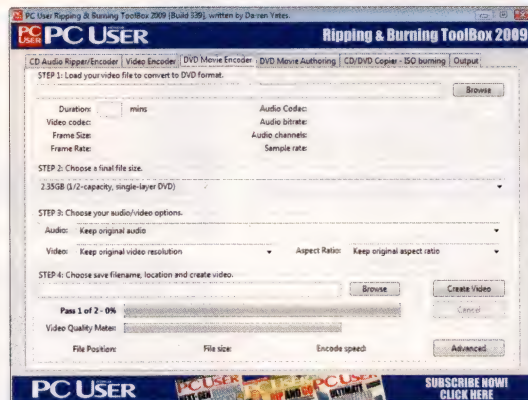
_FASTER VIDEO ENCODING

Our exclusive *PC User* DVD-HD 2009 and Ripping & Burning Toolbox 2009 video encoding apps rely on the open-source command line video converter FFmpeg. However, FFmpeg is being refined and developed on a daily basis, so it's quite possible that there will be improved performance available from a later version.

You can update our software by simply replacing the ffmpeg.exe file you'll find in the application folder. We recommend you rename the original ffmpeg.exe file first (rather than deleting it), just in case you

175
EXPERT TIPS

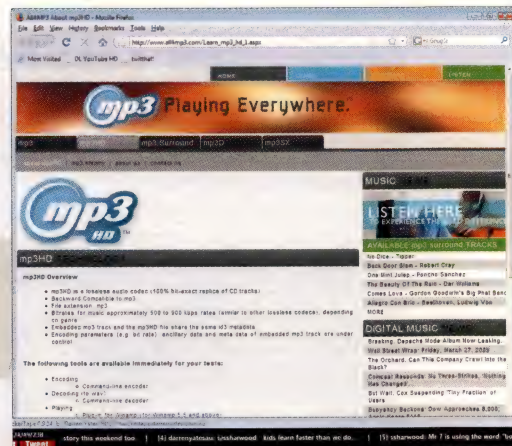
There's a new lossless version of MP3 available, known as mp3HD.



have problems with the new version. Simply copy the new ffmpeg.exe into the application folder and everything should continue to work. You can grab the latest version of FFmpeg at <http://ffmpeg.mplayerhq.hu>. The file you want is the .7z compressed file. Download that file and use freeware 7-Zip (<http://7-zip.org>) to decompress it.

_TRY A NEW MEDIA PLAYER

If you're looking for a free media player for your PC, give the new Media Player Classic Home Cinema (MPC-HC) version a go (you can grab it from <http://mpc-hc.sourceforge.net>). It's built on the original Media Player Classic, which in turn is built on the Windows 98 version of Microsoft Windows Media Player, but with some heavy modifications. This particular version has better support for Vista and 64-bit Windows operating systems,



You can update our DVD-HD 2009 Ripping & Burning Toolbox 2009 software with the latest version of FFmpeg.

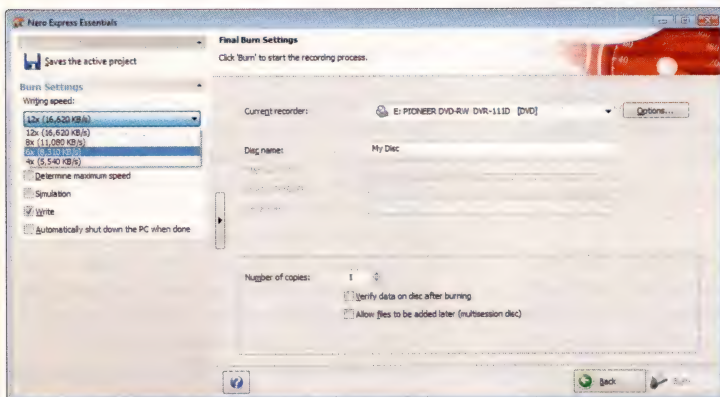
and now comes with H.264 and VC-1 codec support. It also has a new option to remove 'tearing', an issue that can come up when viewing some video files on PCs, where frames aren't completed correctly and look as if they're tearing when being displayed.

_FAST, HIGH-QUALITY BURNS

Here's a good rule of thumb we've found from the last few years of doing DVD burner and media tests: to get maximum burn quality, don't burn your discs at maximum speed. You'll get the best compromise between speed and quality by choosing the halfway mark of your burner or media's top speed, whichever is lowest. That means if your burner tops out at 20x and you're using 16x media, burning it at 8x will get you the best quality, and should only take about 3 minutes longer than a 16x burn. The faster you try to burn a DVD, the worse the overall quality is, especially if it's a full disc. DVD burners only hit their top speed at the last 20% or so of the disc, so there's really only fractionally more speed to be had by burning with the fastest option anyway.

_LEGAL SOFTWARE BACKUPS

According to Australian copyright law, if you've legally purchased a software program, you're entitled to make a copy of that software for the purposes of using as a backup or working copy in the event the original disc is damaged, lost or destroyed. You can read this 1999 Amendment to the Australian Copyright Act 1968 online at <http://tinyurl.com/ce3c3l> (look for Subsection 47C). So, provided you're not stupid and trying to sell copies at your local flea market, you're legally allowed to make personal backup copies of your software.



To get maximum burn quality, don't burn your discs at maximum speed.

FREE TOOLS TO RIP & WATCH MOVIES

If you want to rip your home movie DVDs to play on a portable device or notebook, here's what you need.

- 1 SmartRipper or DVD Decrypter to rip the movie as a single .vob file.
- 2 Our exclusive Ripping & Burning Toolbox 2009 software from last month's issue, or November 2008's RockPod 2009 software. These convert .vob files to smaller or portable device formats.

For watching movies on a netbook or notebook computer, you'll need:

- 1 Media Player Classic on your notebook to play the movie.
- 2 ffdshow to add the required video/audio codec support.

That should get you watching the vast majority of file formats available, either created by software or downloaded from the internet.

STORING BACKUP DVDs

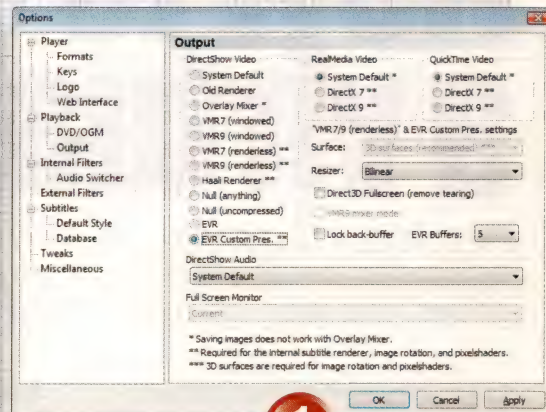
Most nocturnal animals prefer cool, dark and dry conditions to escape the day — they're the same conditions your archived DVDs would prefer, too. Recordable DVDs don't like sunlight, as the ultraviolet component of the light can alter the chemical storage layer on the disc and cause degradation. They don't like humid conditions either; in fact, there isn't much tech that actually likes being soggy! However, most of all, DVD-recordable discs don't like heat, as this affects the stability of the chemical storage layer. An hour or two inside a car in the midday sun is enough to give any DVD the wobbles. So, for important stuff, remember cool, dark and dry — those three things will ensure your discs last for as long as possible.

H.264 BATTERY DRAIN

H.264 has become a hugely popular format for video files online. That's fine if your PC or notebook (or even portable media player) is connected to AC power, but H.264 is the most complex video codec available and that means it needs lots of processing power to decode. It also means it's the one that will chew through your device's battery faster than anything else. With portable playback devices coming with so much storage these days, there's less need to have such a tightly compressing codec as H.264. Battery life still seems to be at a premium, so try encoding either to simple MPEG-4 or even MPEG-2 instead. These codecs are simpler and require less CPU horsepower to handle, which means the battery will last longer. This can be even more important when your video playback device is also your mobile phone. If you're playing videos on a small screen, you'll likely never see the difference between an MPEG-2 and an H.264 video file, but your player's CPU and battery definitely will.

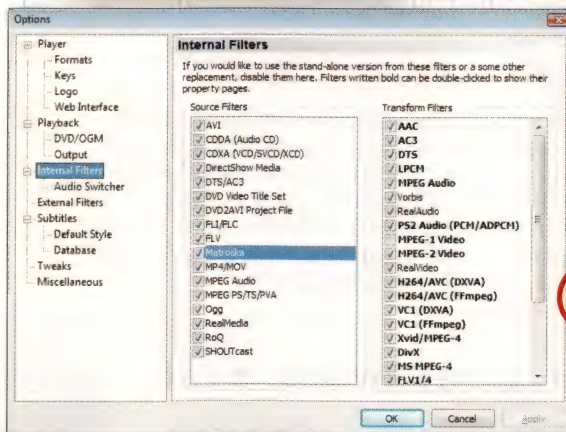
stepbystep ACCELERATE H.264 PLAYBACK

If you have a reasonably recent ATI or Nvidia graphics card, you can actually get H.264 video acceleration using the graphics chip, which means the CPU doesn't have to do all the hard work on its own. To start, you'll need at least an Nvidia GeForce 8000-series or an ATI Radeon HD-series graphics card using the latest drivers. You also need the new MPC-HC software and the latest version of DirectX, which you can grab from www.microsoft.com.



1

Launch MPC-HC, click Options → 'Playback/Output' and check the box next to 'EVR Custom Pres'. Click the Apply button.



2

Select 'Internal Filters', make sure all the checkboxes in 'Source Filters' are checked and click OK. Provided you have the latest drivers for your graphics card/chip, you should then be able to use your graphics chip instead of the PC's processor to play back H.264 video.

H.264 is the most complex video codec available, which means it will quickly drain your video device's batteries.

OLDER PC? USE MPEG-2

If you have an older PC or a netbook, stick to MPEG-2 video encoding. The fact that codecs such as H.264 are so complex means they not only give batteries a real workout, but they can cause stutter issues on older PCs and netbooks. This is particularly true if you're trying to play back a high-resolution H.264 video file. On the other hand, MPEG-2 is a technically simpler codec, but can actually do as good a job with video encoding — and arguably better than H.264, depending on who you talk to. MPEG-2 playback at DVD resolution is possible on virtually any PC built since 2000. The higher in resolution the video file you want to play, the faster the CPU you need to decode that file and play it. H.264 more than doubles that demand because of its complexity. Here's an example: a PC that can encode a video file to H.264 at 60fps can often do the same job in MPEG-2 at over 200fps.



How to create a virtual CD

Mounting a CD or DVD can help solve problems such as how to install software on a netbook. **Darren Yates** shows how with his new software tool, DiscJockey.

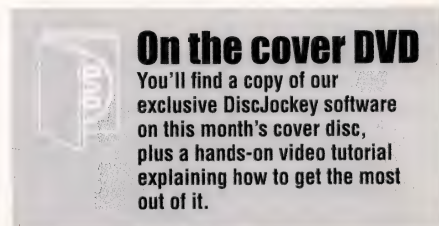
It's becoming an often-asked question: how do I install software that comes on CD onto my netbook? In some cases, it can be as simple as copying the disc onto a USB flash drive and loading it into your netbook. But it's not always that easy. Some software installation methods look for the actual CD or DVD. Others may have hidden files they're looking for. So, while a straight copy and paste in Window Explorer sounds like a great idea, it's not always going to work.

It's one reason why virtual disc drivers such as DAEMON Tools and SlySoft Virtual CloneDrive have become so popular.

Another reason is speed: installing software from a virtual disc can often be significantly faster than if you had installed it from the original CD or DVD.

INTRODUCING DISCJOCKEY

This problem is more acute for netbook owners because they simply don't have a choice — we're yet to see a netbook that includes an optical disc drive. So unless you want to spend \$100 on an external drive, you're pretty much stuck using a virtual optical drive.



On the cover DVD

You'll find a copy of our exclusive DiscJockey software on this month's cover disc, plus a hands-on video tutorial explaining how to get the most out of it.

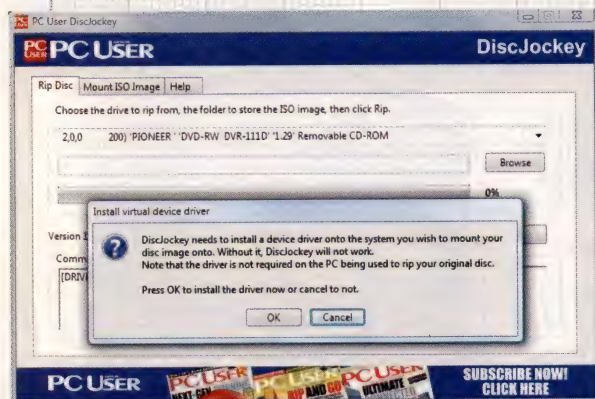
When searching for a solution for our own netbooks, we were disappointed to discover there was no software tool that did everything — both the ripping of the original disc and the mounting of the virtual drive image onto the netbook. So in the end, we decided to build our own and we've called it DiscJockey.

RIPPING & MOUNTING 101

We've used a couple of terms that may be a little perplexing, so let's go back to the start and take a look at the basics of the process.

The first thing we have to do is take the

stepbystep RIP A SOFTWARE DISC

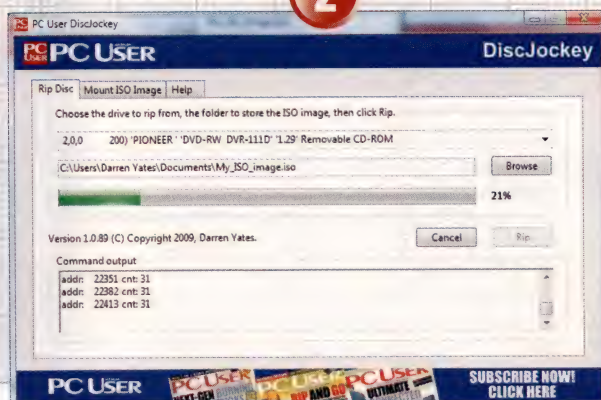


1

Start by installing DiscJockey onto the PC you're going to use to rip the original disc. When you run the application, you'll be asked to install the ImDisk virtual drive software. Note that you don't need to do this on the ripping PC (unless you plan to mount disc images on this machine, too).

Make sure the 'Rip Disc' tab is visible, choose your optical drive from the list and insert your original software disc. Once that's done, select a file save location for the ISO image and click the Rip button.

2



3

Once the process is complete, open Windows Explorer and navigate to the .iso file. You can then copy that file onto a USB flash drive. You'll also need to save the DiscJockey install file to the USB drive so you can install it on the second PC. To do this, navigate to the DiscJockey page on the cover DVD, click Install and then choose to save the file to your USB drive.

About DiscJockey

DiscJockey is copyrighted software and is not to be distributed in any form without permission from the author. It is not to be used for commercial or illegal disc copying. While this software has been tested, it is supplied on an as-is basis — use at your own risk.

original software disc and make an exact bit-for-bit copy of it using a PC that does have an optical drive. This is known as 'ripping' the disc. But it's not just doing a straight copy — we're making a perfect copy of the disc and storing it in what's called an ISO image, which is basically the disc structure, all contained in a single file. To do this, DiscJockey uses the Linux command line tool `readcd`. It gets right down to the raw data on the disc, copies each sector byte for byte and stores it in an .iso file for us.

Once we have that image, we can copy it to a USB drive and from there, onto your netbook's hard drive (provided your netbook has sufficient space, of course). The problem here is that Windows XP doesn't have a way of handling ISO images on its own, so we need a way of turning that ISO image into a virtual optical disc drive. This is what a virtual disc driver is designed to do.

For DiscJockey, we're using an open-source tool called `ImDisk`, which allows us to attach (or 'mount') an ISO image into Windows Explorer as though we were inserting a real optical disc into a real optical drive. That's why it's called a 'virtual' disc driver. We're basically tricking Windows into thinking it has a new external optical drive plugged into it. With this process, we can even choose any unused drive letter we want to assign to the drive.

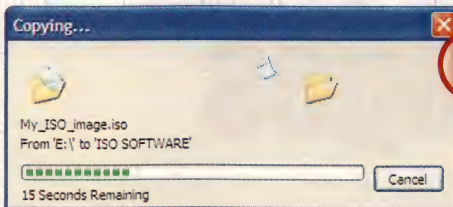
The DiscJockey software manages the ripping of the original disc and the mounting of the ISO image into Windows Explorer. Inside Windows Explorer, the ISO image looks just like the contents of the CD/DVD we ripped earlier. From there, it's just a matter of looking for the install file within the virtual drive and beginning the installation process. To Windows, it looks as though we're installing the software straight from the CD or DVD, but in fact there's no CD/DVD drive in sight.

CAVEAT: NO COPY-PROTECTED DISCS

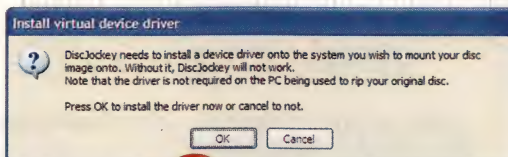
If you thought this might be the ultimate tool to copy your games discs, think again. The process doesn't work on any disc that has a disc-based copy-protection system on it, such as `SecuROM`. Remember too that if your installation disc requires you to enter a product ID or licence key, you'll still need to do this. DiscJockey doesn't bypass any in-software protection, just as it can't copy discs with disc-based copy protection.

That said, you should find that the

stepbystep MOUNT AN ISO IMAGE

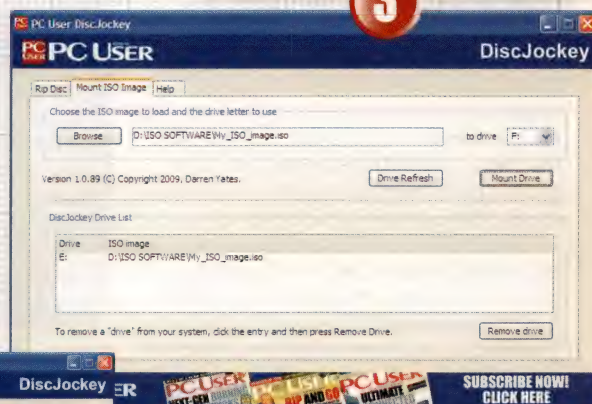


1 Copy the DiscJockey installation file and the ISO image from your USB drive to your netbook's hard drive.



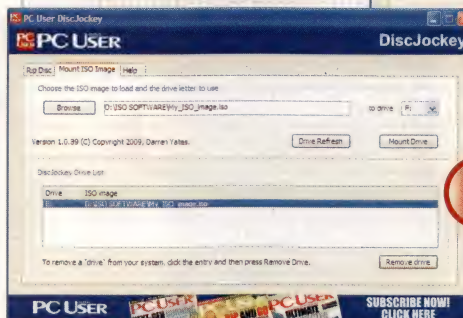
2

Install the DiscJockey software onto your netbook. When you run DiscJockey for the first time, you'll be asked to install the `ImDisk` virtual driver. Choose Yes, otherwise you won't be able to install from the ISO image.



3

Click on the 'Mount ISO Image' tab. Click the Browse button and locate the .iso file you just copied. Next, choose a drive letter to use as the mount point in Windows Explorer (only unused drive letters after C: are included in the list). After that, click the Mount button. If successful, the drive letter and ISO image location should appear in the DiscJockey 'Drive List'.



4

Open Windows Explorer and you should find a new drive letter listed. Click on it and you should see the file structure of the original software CD or DVD. Look for the setup file and run it. Your software should begin installing as though it was coming straight from the original disc. Once installed, you can remove the virtual drive by clicking on the entry in the DiscJockey 'Drive List' and then clicking the Remove button. This will unmount the ISO image and remove it from Windows Explorer.

majority of unprotected software discs will work with this process, because all we're doing is shifting the original software from the disc into a format that can be used without the disc.

HOW IT WORKS

You need to install DiscJockey on both PCs — the PC you're going to use to rip the original disc, which obviously must have an optical drive, and the PC you want to install the software onto. You don't need to install the `ImDisk` software on the PC doing the ripping — it's only used to mount the ISO image, so there's no need to install it (unless you want to, of course). The choice is yours, but it's not required for the DiscJockey software to work. From here, it's just a case of following the step-by-step guides opposite and above.

INSTALLING ON VISTA

If you're installing this software on Windows Vista, make sure you either have User Account Control switched off, or install it using the 'Run as Administrator' option — you do this by opening Windows Explorer, right-clicking the DiscJockey install file and selecting the appropriate option from the pop-up menu. You'll also need to do this when you run the DiscJockey application.

If you've been toying with the idea of buying an external DVD drive for your netbook to load in your software discs, hopefully DiscJockey will save you the time and about \$100 to boot. **PC**

Working with disc images

Helen Bradley introduces you to disc imaging with UltraISO.

Most people are familiar with the process of copying data from CDs and DVDs and ripping music from CDs, but you may be less familiar with the concept of creating a disc image — a copy of a disc you can write to another disc or store on your computer. Instead of being a series of files and folders, these images are a single file or small collection of files that represent the data from the original disc.

The benefit of making disc images rather than copying files is that you can copy discs which may otherwise be difficult to copy. This may be because of the layout of data on the disc, because the disc is bootable and you want to make the copy bootable, or because the disc has copy-protection built in.

UltraISO 8.6.6.2180 Magazine Edition can help you solve these problems by giving you a means of copying a disc to an image, which can then be burned to a new disc or accessed from your computer in a similar way to how you use regular CDs and DVDs.

The step-by-step guide (right) shows you how to create a copy of a disc on your computer, mount it as a virtual drive and use virtualisation software (available from the makers of UltraISO) to access the disc file in the same way as you would a regular CD in a drive. We've shown you the process using an audio CD, but it's similar for any type of disc.

The UltraISO tool has other applications, too. Using it you can copy multiple CDs with games or other content and write them to a DVD, for example, so you can store multiple virtual CDs on a single DVD. If you then place the DVD in your drive, you can play the games as if they were being run from the original CD. You can also use UltraISO to make copies of your original games discs, allowing you to play from a copy of the disc, thus protecting the original disc from damage.

UltraISO can copy discs in a number of formats including standard ISO, BIN, Nero, compressed ISO, Alcohol and CloneCD. The program has a simple interface, with the file system on your local disk appearing in the bottom pane of the window and the disc image in the top pane. There are a series of toolbar buttons providing access to processes such as opening a disc image, opening a CD or DVD, saving an image, making a CD or DVD image from a CD or DVD, and converting from one format to another. You can also burn a CD or DVD using the 'Burn Image' option.

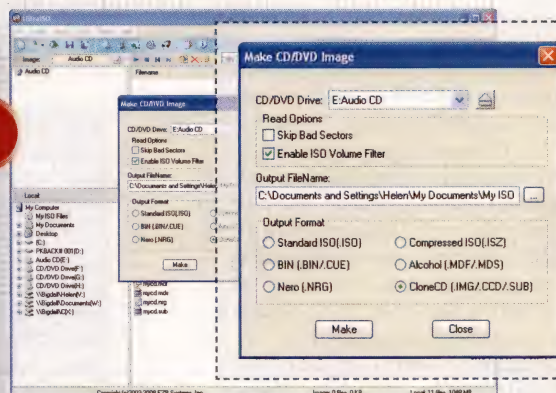
SPECIAL OFFER

For a limited time only, PC User readers can upgrade to UltraISO 9.3.3.2685

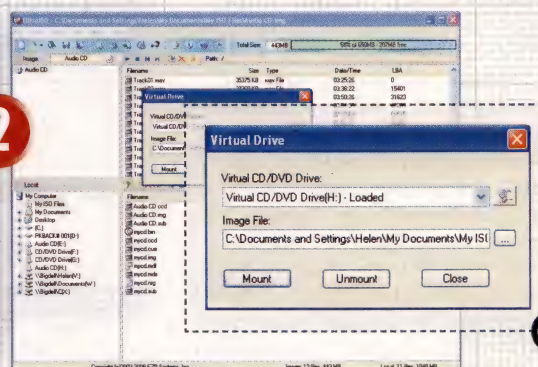
and receive a big discount. This latest version includes the ability to open Xbox 360 ISO images and many other new features. Visit <http://tinyurl.com/dbgapa> to take advantage of this offer.

stepbystep CREATE A VIRTUAL DISC

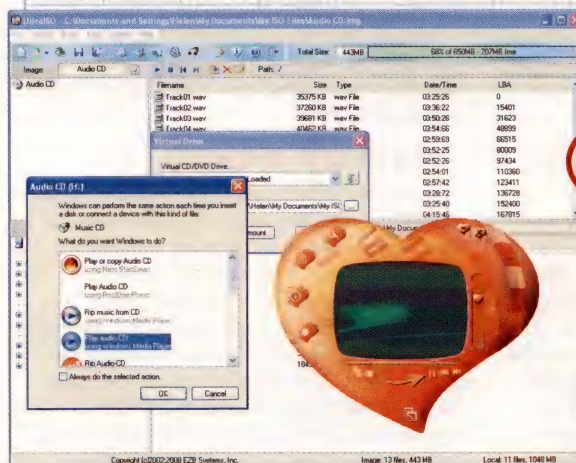
Place the original disc in the drive and click 'Make CD/DVD Image'. Select your drive, tick the 'Enable ISO Volume Filter' checkbox and set an output filename and path. Choose a format for the disc — if 'Standard ISO' doesn't work for your disc type, go with CloneCD or another option. Click Make to copy the disc.



When the process is complete, you'll be advised of this — click Yes in the Prompt dialog to open the file you just created in the Image area at the top of the screen. Go to Tools —> 'Mount to Virtual Drive', select the drive letter and the image, and click Mount.



The file will then appear as a new drive on your computer. To access it you will need software such as SoftDisc (www.ezbsystems.com/softdisc). With this installed you can access the virtual drive as if it were a disc in your CD drive. Here, we're playing the music from the virtual audio CD in Windows Media Player.



HELP STATION

Q&A / SYSTEMS / CONNECTIVITY / APPS / COVER DVD

Your technical problems solved

LINUX

Not enough memory

I bought the March issue of *PC User* just because on the DVD cover it stated that UserOS Netbook 8.1 Beta requires only 256MB of RAM. As I inserted the disc, it

read: 'Requires 512MB RAM'. So I lost my money. In future, please be more specific with your description.

— Vadim Ledogorov

Sorry for the confusion, Vadim. However, you haven't lost your money — UserOS

WINDOWS

USB networking

Is it possible to have a USB network connection? I'm thinking of placing my older computer (XP Home Edition SP1) next to my other new computer (XP Home Edition SP2). I want to do USB networking like the article 'Fashion a FireWire network' (*PC User* March 2007, page 90), but with a USB cable instead. Someone at a computer shop said a USB network would work better than FireWire, but another person said that serial and parallel are the same. What's the real deal?

— Aren Harris

The short answer is yes, you can network over USB ports, but not as simply as you're proposing. Although both USB and FireWire use cables to make a connection, the similarity ends there. FireWire cables have male connectors on both ends, so you just plug in to each PC and you're away and networking. The only thing to watch is the number of pins, which can be either six or four, so you need to buy a FireWire cable that matches the connectors on each PC.

Unfortunately, you can't simply plug PCs together with the usual USB cable.

That's because it has a male type A connector on one end (the flat one that plugs into your PC) and a male type B connector on the other (the square one that plugs into a printer or other peripheral device). Although you can get a USB cable with male A connectors on both ends, these ordinarily aren't suitable for networking two PCs and could fry your USB ports if you tried. The cable you need is a special A/A version called a USB networking cable (or bridged cable), which has an electronics networking package in the middle. Check out <http://tinyurl.com/dd7dnc> or <http://tinyurl.com/d6wbc7> for examples. However, I've not tried any of these, so I can't comment on how well they work. Nevertheless, I do know that with most of them, you can't just plug it in and start networking; you first have to muck around installing and configuring the driver on both PCs.

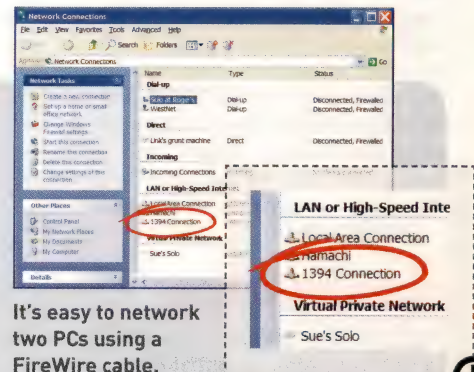
If either of the PCs has USB 1.1, this will cap the networking speed to 12Mbps, compared to a theoretical upper limit of 480Mbps if both PCs have USB 2.0. If your new PC has integrated wireless or Ethernet capability, other USB options include getting a compatible USB adapter for the

On the cover DVD

You'll find Free PDF to Word Doc Converter 1.1 on this month's cover disc.

Netbook 8.10 Beta will most definitely run on a system with only 256MB of memory — we designed it that way!

— Darren Yates



It's easy to network two PCs using a FireWire cable.

old PC, for which the same speed limitations apply for USB 1.1/2.0. In my opinion, the best solution is to get a cheap 10/100 Ethernet card for the old PC (plus another one for the new PC, if it doesn't have integrated Ethernet) and connect the two PCs using a crossover cable.

Although it's not as versatile as any of the above network connections, in versions of Windows before Vista, you can also transfer files between PCs using a LapLink or compatible cable connected to either the serial ports or parallel ports, which is faster. The feature that does this is called 'Direct Network Connection' in Windows XP and 'Direct Cable Connection' in Windows 9x/Me/2000, and you can find details in Windows Help.

— Link Harris

PHOTO EDITING

TIFF images won't open

I have a large number of old family photos stored as TIFF images, none of which will open. The filenames appear to be in order and they are named untitled_1.tif, untitled_2.tif and so on, and the file properties don't show anything unusual. I've tried a number of programs, but nothing opens these files. Do you have any ideas?

— Barbara Smith

When I'm faced with a situation like this, the first thing I consider is the possibility that the file's extension doesn't match the file's format. In this case, simply changing the extension to the correct one can make it possible to open the file. I take a chance and change the extension to some of the common file formats, such as JPG or BMP, and try opening the file. With your files, this didn't help at all.

The second thing I do is take a look inside the file with a text editor to see if there's anything in the top of the image that tells me anything about it. I opened your files in Notepad and expected to see a page of nonsense characters, perhaps with something informative in the first few lines. In your case, I saw the problem immediately: the files are empty. They are very large files, but they contain absolutely nothing at all so the images simply aren't there. I hope you can find other copies of the images somewhere else that are still OK.

— Helen Bradley

OFFICE APPLICATIONS

Transferring styles

I want to be able to distribute a document created using my computer's Normal.dot file and I have some specific formatting for common styles I want to transfer to another computer so my formatting can be used there.

— Gerald Thorne

When you create a document in Microsoft Word and save it, the styles are saved with it. The styles remain intact even if you open that document on another computer and even if its Normal.dot file contains styles that are different to the ones in your document. If you only need to be able to see the document as it was designed on a second computer, you don't need to do anything.

If you have special styles in a document that you want to be able to use on another computer, you must transfer them. Don't copy the Normal.dot template from one computer to the other, as Normal.dot includes features

OFFICE APPLICATIONS

Page borders

I'm used to creating page borders for my documents by clicking Format → 'Borders and Shading' → 'Page Border' and then selecting an art option from the drop-down list. I need to do this now using a piece of art of my own choosing, but I can't find any way to add my own art to the custom option. Can you help?

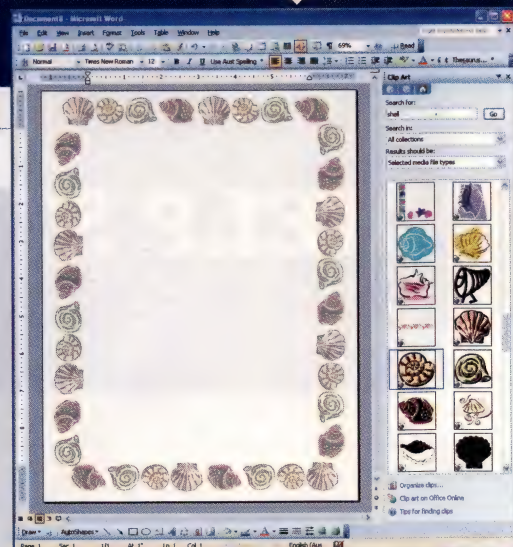
— Sarah Cranbourne

There's no inherent ability to add your own custom images to the Word page border option, so you'll need to approach the task in a different way. There are a couple of workarounds you can try.

One is to add a page border by locating a graphic that does the work for you. Go to Insert → Picture → 'Clip Art' and type **Border** as the search text. Select to search Everywhere, select 'Clip Art' from the 'Results Should Be' list and click Go. Word will search both the internet and your computer for border art that you can use. Some border art comes in strips and others are entire borders that will go all the way around a page. Find a piece of art that is designed in the correct page orientation for the design you're using. Click on the border, drag it into the page, and size and place it in the desired position. Right-click it, select 'Format Picture', choose 'Behind text' from the Layout tab and click OK. This will move the border behind the text on the page.

Alternatively, you can create your own border using a series of small graphics. For example, you may want a border of seashells, so find one or more clip art images of shells to use and drag them into your document. It's best to use images that are all designed with a similar look and feel. Duplicate, size and position the shapes to create the top part of the page border. Select all the shapes by clicking the 'Select Objects' tool and then dragging over all of them. Go to Draw → 'Align or Distribute' → 'Align Middle' so that their middles are at the

other than styles and in replacing the file on the second computer, you may overwrite some data you want to keep. It's best to simply copy the styles. Open the Word document containing your styles on the second computer and go to Tools → 'Templates and Add-ins' → Organizer button. Click the Styles tab and you'll see a list of the



You can use clip art shapes to create your own custom Word page border.

same position. You can even use 'Align Top' or 'Align Bottom' if you prefer. Leave the images still selected and click Draw → 'Align or Distribute' → 'Distribute Horizontally'. With the shapes still selected, right-click and choose Grouping → Group. This will group the shapes into a single piece.

Once you've created the shapes for the top edge of the document, for example, hold Ctrl and drag a duplicate set of shapes to use for the bottom edge. If desired, rotate these 180° so they're flipped. Repeat the steps above to create a side border, this time rotating the images so they're facing the right way. When you've done this, make a copy, rotate it 180° and use it for the border on the opposite side of the page. Then, select all the four borders and group them to make a single object. The border should then resize and move as a single unit. To place it behind the text on the page, right-click it and select Order → 'Send Behind Text'.

Instead of placing the images behind the text on the page, you can place them in the Header so they're out of the way of the page content. To do this, cut the border from the page by selecting it and clicking Edit → Cut. Go to View → 'Header and Footer', right-click on the page and select Paste. Position the border on the page and click Close to return to the document. The border will look lighter than the remainder of the page, but will print just fine.

— Helen Bradley

styles in the document on the left and those in Normal.dot on the right. You can select and copy styles from the left-hand dialog into the one on the right. When you do this the styles will be stored in the Normal.dot template and they'll be available to use in other documents in future.

— Helen Bradley

WINDOWS

Topsy-turvy display

My flat panel shows upside down. It's OK until after the Windows XP screen appears, and then it turns over. This has happened ever since my granddaughter stayed over at the weekend. She's such a devil! I've had to stand the panel on its head with the stand against the wall, but I'd rather not do this. How can I put it back to normal?

— Ross Walker

Don't be too harsh on your granddaughter! It could have been a case of her unintentionally pressing Ctrl-Alt-down arrow. Try pressing Ctrl-Alt-up arrow to see whether this restores the normal display orientation. Since not all video cards that support display rotation also support these shortcuts, you may need to right-click the desktop and select Properties → Settings → Advanced button → <name of your video card> tab (not the Adapter tab). Then, find where you can adjust the rotation and put it back the way it was. For the benefit of others, the two other keyboard shortcuts are Ctrl-Alt-right arrow (rotate 90° clockwise) and Ctrl-Alt-left arrow (90° anticlockwise).

— Link Harris

PHOTO EDITING

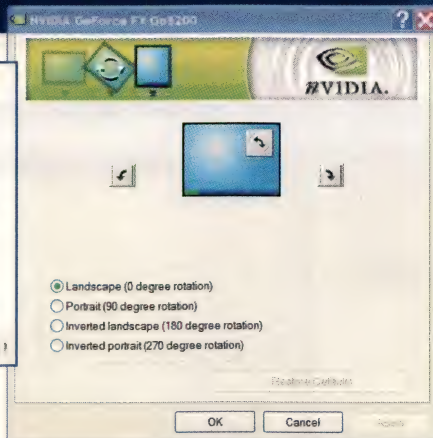
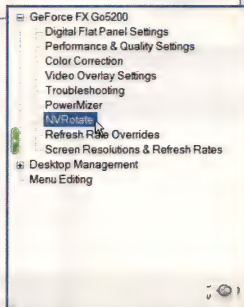
RAW vs JPG

I have been reading all the advantages of using Camera RAW instead of JPEG as a file format. As my digital camera only shoots JPEG, is there any advantage in converting my images into RAW to work on them?

— Jim Smith

You're right that there are certain advantages to using Camera RAW as an image file format. The issue with your images is there's no way to convert a regular JPEG image into Camera RAW because it's a special unprocessed format. It's essentially what your camera's sensors see when you take the photo. As a result of this, a Camera

While you can edit a JPEG image in Camera RAW, not all the program features are available.



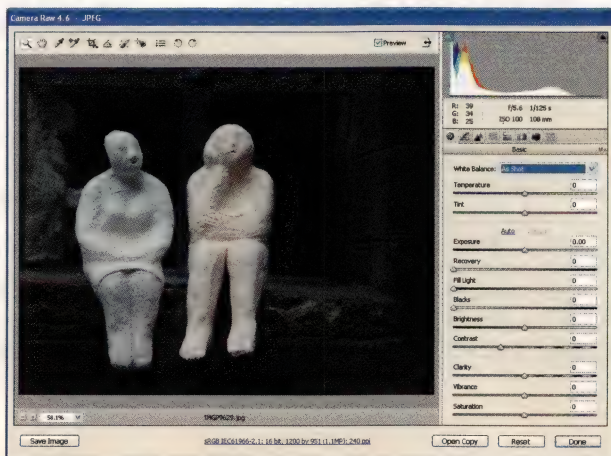
Some video cards let you rotate the display.

RAW image is quite large and has a lot more detail in it than a regular JPEG image.

Typically a digital camera that shoots only in JPEG captures all this data from its sensor and then processes it, taking into account the user settings for such things as white balance, and gives you a final image that is already substantially pre-processed. On the other hand, a camera that captures in Camera RAW does minimal pre-processing and delivers the data that the sensors record in the Camera RAW format, allowing you to do the processing yourself. Because Camera RAW images contain so much data and require pre-processing, programs like Photoshop and Photoshop Elements ship with a Camera RAW editor, which you use to perform the pre-processing before taking the processed image into Photoshop or Photoshop Elements.

Camera RAW is a proprietary format and is unique for each camera; for example, my Pentax camera has a different RAW format to one created by a Canon camera. This is unlike a format like JPEG, which is the same for each camera. In part because of this difference, you can't save a file to a Camera RAW format (you can't even save the edits to a Camera RAW file back to that file), as it's a one-way file format — you can read from it, but not write to it.

In the last few years, Adobe has pioneered a new DNG format (Digital Negative), which



WINDOWS

Convert PDF to DOC

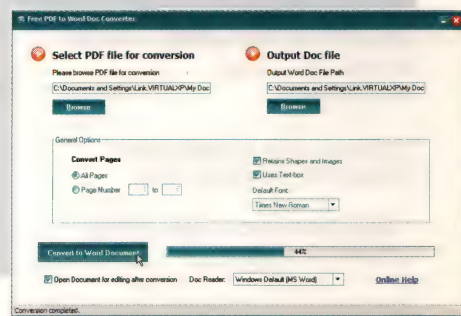
Do you know of any way that a PDF document can be saved as a Word file? I have Adobe 6 Professional so I'm able to make small alterations to PDFs, but if big chunks need changing, I'd like to do this in Word and resave the document as a PDF.

— Pam Williamson

Try Free PDF to Word Doc Converter from www.hellopdf.com or this month's cover disc. The software doesn't have instructions or a help file, but the home page has a brief description and links to FAQs and a tutorial. Don't get sucked in by the red links at the top of the page, which are paid advertisements and not freeware. Also, you should set up a restore point before you install the software. In Windows XP, go to Start → 'All Programs' → Accessories → 'System Tools' → 'System Restore' → 'Create a restore point'. In Vista, type **system** into the 'Start Search' box, click 'System Restore' → 'Open System Protection' link → Create button.

— Link Harris

Free PDF to Word Doc Converter makes for easy editing of .pdf files.



overcomes some of the limitations of Camera RAW. It's not a proprietary format so different cameras can use it, but unless yours can capture and save .dng files, there's no value in storing an image as a .dng file because you can't undo the pre-processing that's done to the file before it's saved as a JPEG. That said, in Photoshop versions from CS3 on, the Camera RAW utility can now open JPEG images so some of the processing tools in the Camera RAW editor can be used on your JPEGs. This isn't the full set of available corrections because you simply don't have the data to work with, but it does offer access to some tools (such as Clarity and Vibrance), which aren't available in Photoshop itself.

—Helen Bradley

OFFICE APPLICATIONS

Breaking apart cell content

I am trying to separate details contained in Excel cells, but I don't know enough about code to write a macro to do it. I have many cells that contain people's names and the only indication that there are two names in the cell is that the second name starts with a capital letter. Can you help me with a macro that will split the names into multiple columns? — John Travers

This is an interesting variation on a fairly typical problem. Usually, the problem is that a cell contains both first and last names separated by a space, and the problem is to split the names into cells in the adjacent columns. In this case, you have the first names and second names jammed together so they look like: AdamJohn, JaneMaria, PeterMichael and so on. The only way to know where one name ends and the next begins is, as you say, the presence of the capital letter on the second name. You need to be able to find that capital letter and split the cells' contents in two at that point. Here is a macro that will do the work:

Option Explicit

Sub BreakNames()

Dim cell As Range

Dim fullname, letterToCheck, firstname, secondname As String

Dim i As Integer

'Process all cells in selected range
For Each cell In Selection.Cells

'Set fullname variable to cell contents
fullname = cell.Value

'Set firstname variable to the fullname and

'set secondname to empty

'in case it is a one word name

firstname = fullname

secondname = ""

'Process all characters in name from left to right starting at

'position 2 as position 1 will always have a capital letter

For i = 2 To Len(fullname)

'check to see if the letter is a capital letter

'if so, break string at this point into firstname

'and secondname. If it isn't a capital letter..

continue

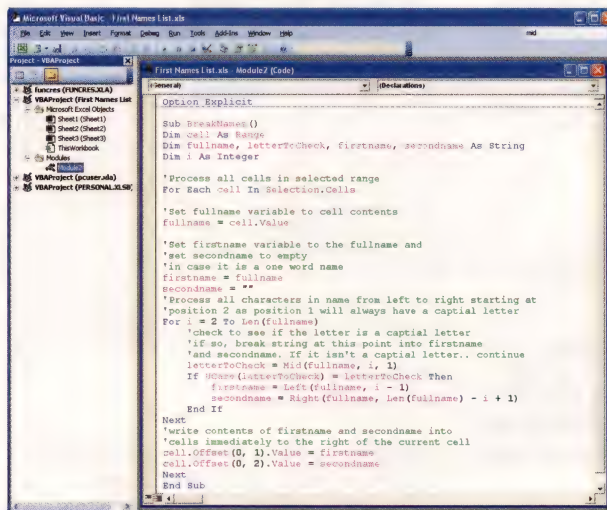
letterToCheck = Mid(fullname, i, 1)

If UCase(letterToCheck) = letterToCheck Then

firstname = Left(fullname, i - 1)

secondname = Right(fullname,

Len(fullname) - i + 1)



This macro lets you split apart two words, where the second word has a capitalised first letter.

End If

Next

'write contents of firstname and secondname into
cells immediately to the right of the current cell

cell.Offset(0, 1).Value = firstname

cell.Offset(0, 2).Value = secondname

Next

End Sub

The macro takes the selected range and processes each cell in the range one at a time. It passes the contents of each cell to a variable and then looks at each character

in this variable (starting at the second character), until it encounters an upper-case letter. Once it locates this, it then breaks the contents of the variable into two pieces, storing each piece in another variable. The contents of these two variables are then written into the two cells immediately to the right of the cell being processed. The macro has been designed to handle the situation where a cell contains only a single name,

as some cells in the sample worksheet contained only one name.

To create the macro, go to Tools —> Macro —> Macros, type **BreakNames** as the macro name and click Create. Type the macro between the **Sub** and **End Sub** statements and then click File —> 'Exit and Return to Microsoft Excel'. To run the macro, first select the range containing the names, go to Tools —> Macro —> Macros, select the BreakNames macro and click Run. The macro will do the work of writing the names to the cells adjacent to the selected cells.

— Helen Bradley

LINUX

Which version of UserOS Netbook?

After enabling the compositor in UserOS Netbook 8.10 Beta through the Window Manager Tweaks, the dock doesn't appear, nor does Avant Windows Navigator appear in the 'Settings Manager' menu or any of its submenus. I'm dual-booting the OS (installed via a USB stick) on a desktop machine alongside Windows XP SP3 with plenty of grunt. I have a feeling the version on the magazine disc is a different version to the one described in the magazine itself. I had to find it in a different place (under Tutorials, I seem to recall) and when it loaded, it looks like the standard Xubuntu desktop. Any ideas? Ditch the partition and start again, maybe? Is there a place where I can check that I have the right version, and/or download it? I'm no Linux expert by a long shot, but I have loaded

Ubuntu and Puppy Linux on other machines successfully, so I'm a bit stumped here.

— Frank Aquino

There should only be one version of UserOS Netbook and it will say 'usersosnetbook-8.10-beta' in the filename. That said, when it comes up, you should see the UserOS Netbook wallpaper. If not, something has gone wrong somewhere. Importantly, it's best not to run the update — at the moment, the update seems to kill a few features inside UserOS Netbook and we're not sure why; however, we're trying to find out before we release our next OS (yes, there is another one on the way).

If you can, try installing UserOS Netbook via the Wubi installation process on your Windows XP SP3 setup. I'm currently using this process to run UserOS Netbook on my MSI Wind U100 netbook.

— Darren Yates



Think smart

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It's smart.

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ESET NOD 32 **ANTISPYWARE**

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PC USER

Best Antivirus of 2001/2002/2003/2004/2005/2006/2007

Quick & easy image editing

Helen Bradley shows how to work with images in Serif PhotoPlus.

Serif PhotoPlus 9, free on this month's cover DVD, is a photo editing program with all the features you'd expect to find in a high-end graphics editor. There are plenty of tools for selecting parts of an image; it supports layers and adjustment layers, allowing you to create very complex layered images and blend layers into each other; and it has a range of useful filters, including blur and sharpening.

To fix an image automatically once it's open in the editing area, go to Image → Adjust and then choose 'Auto Levels' or 'Auto Contrast'. The Levels tool will adjust the tonal range in the image to give it a better range of blacks, whites and midtones, while the Contrast tool will restore contrast to images that are flat and lacklustre. To adjust the colour saturation, click Image → Adjust → 'Hue/Saturation/Lightness' and drag the


Saturation slider to the right to deepen the colours in the image. You can also adjust the Lightness to lighten or darken the result.

To crop an image, select the Crop tool from the Tools toolbar and drag a crop rectangle over your image. The edges will be greyed out to highlight the area that will remain in the final image. Double-click and the crop will be applied to the image.

You can save the file by clicking File → 'Save As', typing a name for it and then saving it in the PhotoPlus SPP format, which will save layer information. For the web and for sharing with others, go to File → Export, type a name for the file, select the type to use from the 'Save as type' dropdown list (such as JPEG, TIFF or PSD) and then click Save. If desired, click Optimizer to run the optimising tool, which will help

you adjust the quality of the file to reduce the final file size.

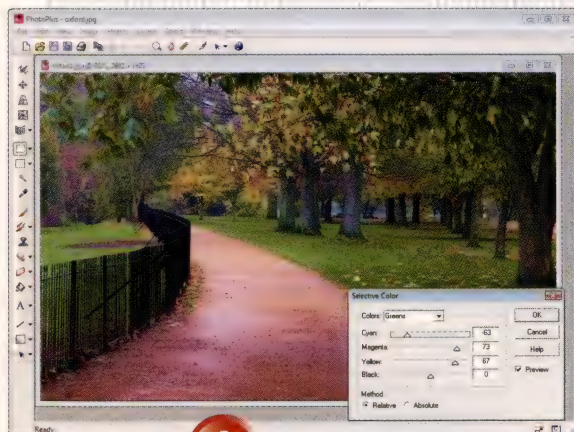
To print the image, go to File → Print or File → 'Print Multiple' to print multiple versions of the image, or multiple images on a single sheet of paper. Pick the paper size from the list on the right of the screen and then drag and drop images into the placeholders to assemble them for printing. When you've printed the images, click the Close button to return to the editing screen.

The program comes with a collection of tutorials to help you get the most out of it. You can view these by clicking 'View Tutorials' from the welcome screen. They range in skill level from beginner to advanced, and the advanced ones take a handy problem-centric approach by posing a problem and showing you how to solve it. 

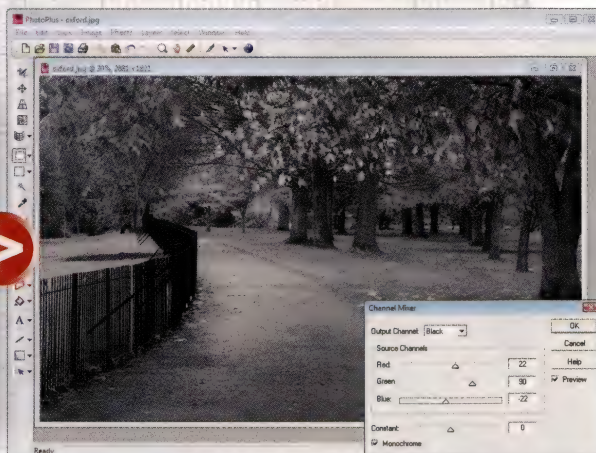


Impressed with PhotoPlus 9? Serif and its Australian distributor, Communique, have a big range of great software and have a exclusive discount offer for PC User readers. See www.pcuser.com.au/pcuser/hs2.nst/dir/readersoffers for more details.

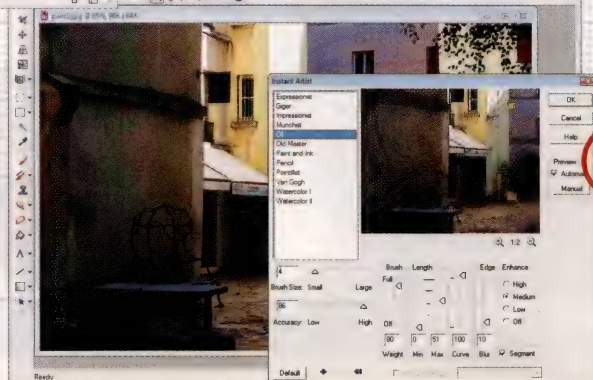
Image editing in PhotoPlus



To convert an image to a custom black-and-white, click Image → Adjust → 'Channel Mixer' and select the Monochrome option. Adjust each channel slider until you get the desired result — it's a good idea to configure settings that together add to 100.



To use an adjustment layer to edit your image, go to Layer → 'New Adjustment Layer' and select an adjustment type, such as 'Selective Color'. Choose the colour to affect from the Colors list and then adjust the amount of Cyan, Magenta and Yellow to suit.



To apply an artistic filter to the image, go to Effects → 'Instant Artist' and select a painting type for your image (such as Pointillist, 'Van Gough', 'Old Master' and so on) and then adjust the sliders to finetune the effect. Click the 'Show/Hide advanced controls' button to see additional controls you can use.



Tune up your processor

With Ashampoo Core Tuner, you can get more from any recent multicore CPU. **Helen Bradley** shows how.

At the heart of your computer is the processor that runs your system. Most newish computers run two or more processors that work together to power your system. Ashampoo Core Tuner is a tool for optimising a multicore system to get the best out of it. However, if you have an older computer and one that isn't multicore, you can still use the program to manage the processes running on it.

To see the current performance for each core, click the Live button. Down the left of the page are large gauges and a chart for each of the cores that are present. The program has a one-click option for optimising your system, which is accessible by selecting Actions —> 'Auto-Optimize Active Processors'. If it's possible to get better performance from your system,

the program will then adjust the load on each processor to achieve this.

You can also manually adjust the processes your system is running. To do this, click the Processes icon to view the current processes. Click a running process and you can see at the top-right the CPU cores used for that process and the priority assigned to it. You can reallocate the cores by clicking on a specific core to enable or disable it from hosting a particular program.

You can adjust the priority given to the process by selecting the process and choosing an alternative priority from the drop-down list. For example, you can set an application to 'Above Normal' or High priority so it gets the resources it needs to run effectively. You might do this if you're running a processor-intensive application and it appears to be

SPECIAL OFFER

Want to optimise your system further? For a limited time, **PC User** readers can upgrade to Ashampoo WinOptimizer 6 and receive a big discount.

From inside Ashampoo Core Tuner, click the Internet menu —> Upgrade —> 'Ashampoo WinOptimizer Upgrade'.

running slowly. This way, you can boost its performance at the cost of other processes. You can also allocate a process to one or more CPU cores to improve performance.

There are other options that include Reset, Boost and Terminate. Click a process and then click Reset to return it to its normal default level of priority, or click Boost to give it a higher priority. If you select a process and click Terminate, you'll kill the process so it will cease running. Take care to do this only if you're sure you no longer want to use this process, and make sure you save your data first, as you won't be prompted to do so.

In this area of the program you can also select to see 'System Processes' and 'User Processes'. This lets you determine which processes belong to the Windows operating system and which are other software.

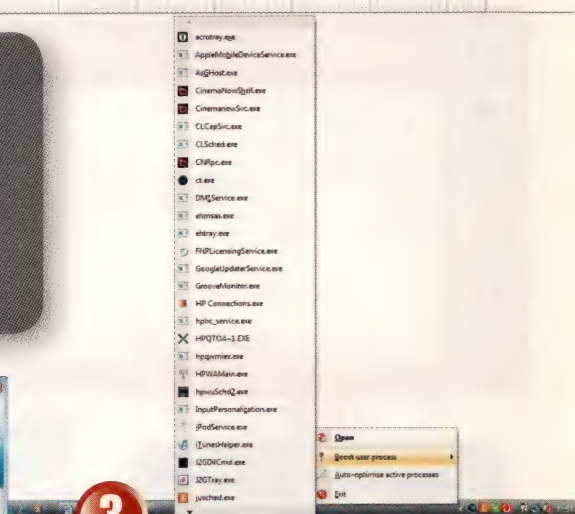
stepbystep MANAGE YOUR PROCESSES



When you've made changes to your system, use the Profiles tab to see information about the changes you've made. You can export this data by clicking Actions —> 'Export Profile' and saving it with a name that you can later reload and use.

Click the Tools option and then 'Unnecessary Services' to see those that Ashampoo has determined may not be needed. Read the recommended settings for each program and, if desired, select each one in turn and adjust its setting to the recommendation.

2



When you click to minimise the program, it will move to the system tray. Later, you can right-click the tray icon and choose to boost a process by selecting it from a list of running processes, auto optimise your processors, or open the main program window.

All-in-one protection

Helen Bradley introduces BullGuard's comprehensive internet protection suite.

The list of tools you need to manage your computer and keep it safe is extensive. BullGuard Internet Security 8.5, free on this month's cover DVD, is a complete package that incorporates not only an antivirus and antispyware solution, but also email spam filtering, firewall and backup utilities. The program runs from a single interface, making it easy to find and access all the options.

Start by clicking the Main button to read off the current security status of your system. Here you'll see whether or not the firewall and spam filters are enabled, when the last scans were performed and when the last updates were made. Click the Account panel to view the current status of your account — the program comes with a six-month licence and six months of free updates, so you can read here how much time is left in your subscription. In the Settings area you can configure whether the program launches at startup and other setup options.

To check your computer for viruses and spyware, first ensure you have the latest upgrades installed and enabled, then click either the Antivirus or the Antispyware button. These are run together so when you select either option, both are selected, enabled and managed at the one time.

The Protection tab shows the current status of your system. To scan, click the Scan tab and choose to scan either 'My Computer', 'My Documents', 'My Emails' or 'Quick Scan'. Select the scan to run and click 'Scan Now' to run it. You can also schedule a scan to take place at a future time by selecting the type of scan and the clicking the Schedule button at the foot of the screen. You can then set a time for the scan to be run automatically.

One nice feature of BullGuard is that you can run a scan and still use other parts of the program while it's running. If you have your scan running, simply click on the main program window to switch back to it.

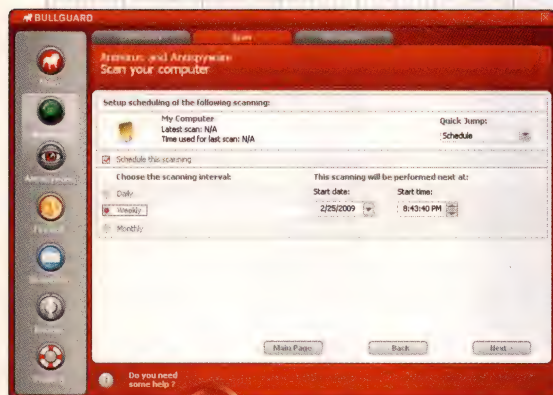
Click the Firewall button to enable or disable the BullGuard firewall. If you're a beginner, leave this set to Beginner and the firewall will be managed automatically by BullGuard. You can expect to see occasional messages indicating that some program you're using is trying to access the internet. Read the messages carefully — most have a 'Remember this setting' option so you can, for example, enable the option for your email software. This way, you set it once and the program will then be allowed access every time it needs it in the future.

Click the Spamfilter button to access settings for spam filtering. If you're using Outlook, you'll see a new toolbar, which lets you click to manage emails that are or aren't spam. You can also train the program based on your current email collection, so it will work smarter for you.

STAY PROTECTED

Your free version of BullGuard Internet Security 8.5 includes six months of free updates. After that, you can stay protected against the latest viruses by purchasing a new licence when prompted by the program or by visiting www.bullguard.com.au.

stepbystep BULLGUARD'S MAIN OPTIONS

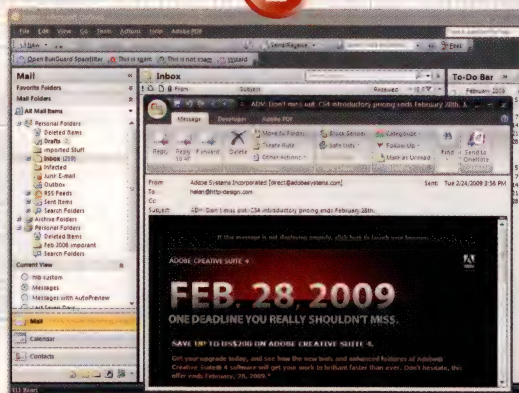


1

Antivirus and Antispam are run together. To schedule a scan to be performed regularly (this is recommended), select the scan to perform (such as 'My Computer') and click Schedule to set up the timing for the scan.

Select the Spamfilter option to configure the email spam filtering options. You can add recipients and senders automatically to a whitelist, or do it manually using the Whitelist tab. The Spamfilter automatically adds a toolbar to Outlook to help you manage the spam filtering process.

2



3

BullGuard includes a backup utility and it provides 56B of online storage you can use to store your backups. If you use the wizard, you'll be prompted to choose the files to back up, how often and where to back them up to, making the process very simple.

AFTER HOURS

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APPLE IPOD SHUFFLE

PRICE \$129 (4GB) / **CONTACT** APPLE / **PHONE** 13 36 22 / **WEB** www.apple.com/au

Crowd favourite Apple has created a stir with its third-generation iPod Shuffle, released mid last month. And unfortunately, based on our testing, we think some of that criticism is justified. The main complaint is the removal of any function controls from the Shuffle itself. You simply get an on/repeat/random switch on the top and that's it. In order to shrink the Shuffle to a size more in keeping with the slimmest of USB flash drives, the volume and play controls are now inline with the earphones, forcibly locking

you into Apple's proprietary set. The inline control features up (+) and down (-) audio level control, while pressing the centre once gives pause/play, double-clicking moves to the next track and holding it down gives the voice annotation. On the plus side, Apple has introduced voice annotation of music tracks — using artificial speech, the Shuffle will tell you what track you're playing. It's a neat trick and the voice quality is basically the same as what you'd hear from an iMac. The audio quality of the player is passable, with total harmonic

distortion of 0.023% at 1kHz with 30kHz filtering. The signal-to-noise ratio of just under 48dB flat and 81dB A-weighted isn't brilliant. Given the price, the lack of earphone choice and only passable audio quality, this isn't one of Apple's better efforts.

— **Darren Yates**

PC User says:

Some clever tech here, but it's not Apple's greatest player.

MEDIAGATE MG-800HD

PRICE \$499 / **CONTACT** ANYWARE COMPUTER ACCESSORIES / **PHONE** 1300 269 927 / **WEB** www.mediagateusa.com

On paper at least, MediaGate's new MG-800HD network media player has it all: the ability to stream audio and video from your PC to your TV, as well as play back files stored on an

internal 3.5in hard drive or from a USB storage device in the back. It supports a wide range of file types, including H.264. It can also act as a USB storage device if it has a hard

disk in it and it supports 802.11n wireless networking. It comes with an excellent remote and it outputs video at up to 1080p across HDMI. It even has a BitTorrent client built in. In terms of its playback performance on an high-definition (HD) screen, the MG-800HD was aces during our testing. We hooked it up to a Full HD plasma screen and streamed HD video from a PC running Tversity media server software over an 802.11n wireless network. It worked perfectly, connecting immediately to the wireless network and showing a clear and stutter-free image that filled

the screen. When we connected it to a PC via USB, it appeared immediately as an external drive. However, the software has more than a few rough edges, including an annoying delay before playback starts, an unintuitive interface, the occasional hang and a general slow responsiveness to remote control commands. It's a real shame because MediaGate has the hardware down — it just has to get the interface and software right.

— **Nathan Taylor**

PC User says: Well-designed hardware, but there are too many software gremlins.

75%

65%

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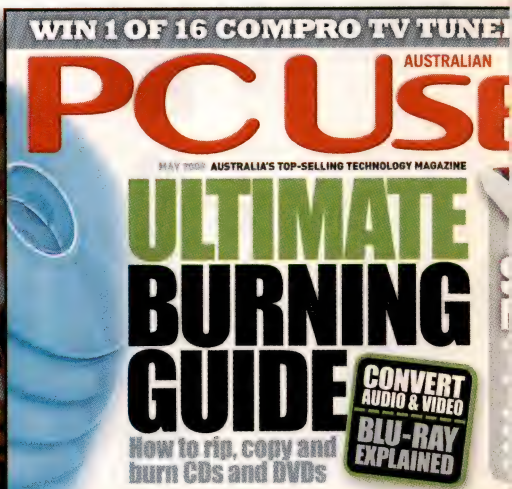
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GADGETS / GAMES

NOKIA E63

PRICE \$450 / **CONTACT** NOKIA / **PHONE** 1300 366 733 / **WEB** www.nokia.com.au

You can't miss the E63 — our review sample came in a very bright red and it's unusual for smartphones, with their business focus, to shift away from rather pedestrian black stylings. Those who don't want to stand out quite as much could opt for the

slightly quieter blue model. As a smartphone, the E63 occupies a curious little niche in the Nokia world. It's a smartphone that most closely resembles the shinier E71, but with a number of features that you'd associate with a smartphone chopped out. It's 3G capable, but not HSDPA capable, which makes for a slower browsing experience, and would make it a poorer choice if you wanted to use it tethered. It has Wi-Fi, but surprisingly for

a Nokia, no inbuilt GPS. Running the Symbian S60 operating system, it's a very capable phone and one that's also pretty pleasant to use, with a spacious keyboard that works well after only a short period of acclimatisation. The battery life rated well, with our average usage sending the test unit flat in about three days.

— Alex Kidman

PC User says: A good mix of entry-level pricing and features.



80%

COMPRO VIDEOMATE W800F

PRICE \$190 / **CONTACT** ANYWARE COMPUTER ACCESSORIES / **PHONE** 1300 269 927 / **WEB** www.comprousa.com

It's a little hard to describe exactly what the W800F is. Compro calls it a TV box and it's essentially a standalone device designed to let you watch digital and analogue TV on your computer monitor, as well as play back media files from USB devices. It does all the decoding internally and simply transmits the decoded video to the monitor. This requires you to plug your computer's VGA output into the W800F, which overlays the video onto that, then transmits the finished product to the monitor. Essentially, it

takes over your monitor and speakers from your PC, turning them into a TV set, and will work even when the PC is switched off. It also has analogue inputs (composite and component) that allow you to watch video from other sources. A USB host port allows you to plug in USB storage devices and play back media stored on them. An additional FM tuner allows you to listen to FM radio through any attached speakers, or through the tiny (and tinny) embedded ones in the W800F. The interface is quite neat

and it comes with a decent remote, so you can sit back from the monitor if you choose. It tuned channels quickly in testing, and switching and previewing channels was instantaneous. Ultimately though, it's a bit limited in scope for our liking — it turns a monitor into a digital TV set, but it can't record video and doesn't have the PVR-like functions that a standard TV tuner card would.

— Nathan Taylor

PC User says: It's complicated, limited and less worthwhile than a regular TV tuner.



70%

KENSINGTON IPOD & IPHONE MINI BATTERY PACK & CHARGER

PRICE \$60 / **CONTACT** KENSINGTON / **PHONE** 1300 366 376 / **WEB** http://au.kensington.com

This small, light and very portable Lithium Polymer battery device could potentially be a real boon for frequent overseas travellers, campers or those who just forget to charge their iPhone or iPod. Designed to be plugged directly into the bottom of pretty much any Apple music player or phone, in testing we found the 1,800mAh pack routinely gave an extra 70% to our iPhone battery's charge (taking it from 10% to 80%, for example), charging it up at a rate of about 1% per minute. And while it would have been nice if it

had enough juice to completely refill the battery, 70% is a decent effort and should get most iPhone or iPod users through another day at least. It also barely heats up when in use, so it'd be safe to put in a bag or pocket while charging is under way. The battery pack's protective cap doubles as a stand, allowing you to prop your iPod or iPhone up to watch flicks while it's charging. About the only caveat we found was that it's a little too large and unwieldy to be permanently attached to an iPhone; however, given that it only takes about 60

minutes to do its job, we don't know why you'd want to use it like this anyway. It's worth noting that there are a handful of similar products from smaller vendors currently available in Australia, but as they're all selling for around the same price, we'd be inclined to go for this name-brand Kensington model, with its local one-year warranty.

— Dan Gardiner

PC User says: A potential lifesaver for iPod or iPhone users on the run.



85%

SILICONDUST HDHOMERUN

PRICE \$299

CONTACT LAKO PACIFIC

PHONE 1800 657 601

WEB www.hdhomerun.com

Most TV tuners are much the same as the others, but SiliconDust has made the HDHomeRun networked, rather than just plugged into a single PC. That means anybody on the same LAN can use the device's twin HD TV tuners, just as if they were plugged into their own PC, and two users can even access it simultaneously. It also comes with BDA drivers that allow you to use it with Windows Media Center and other third-party

video recording software, as well as TotalMedia DVR software, an adequate TV tuner package. A box about the size of a common modem router, the HDHomeRun essentially allocates tuners to users on a first-come, first-served basis. It also has the capacity to be extended with additional HDHomeRun devices for more tuners. Each tuner requires its own antenna input, so be prepared to fork out for a few

antenna splitters if you want to set up multiple tuners. We set up one and were pleasantly surprised at how seamlessly it worked. Over the network it delivered clean and stutter-free TV signals right to Windows Media Center in Vista. Channel switching was occasionally a little slow, but otherwise it worked as well as a locally installed tuner. The unit is a little expensive for what

it does — you could readily buy two standalone internal TV tuners for the price — but it would work well in a small office environment where you might have a number of users who want to access TV at different times.

— Nathan Taylor

PC User says: It efficiently allows multiple users to access the same TV tuner over a network.

MICROSOFT SIDEWINDER X8

PRICE \$120 / **CONTACT** MICROSOFT / **PHONE** 13 20 58 / **WEB** www.microsoft.com/hardware

Microsoft's latest gaming mouse has many of the features we've come to associate with similar products from Razer and Logitech, like macro support, dpi switching on the fly and a shape designed to somehow inspire terror in your foes, along with a meaty price to match. It's wireless and recharges via a rather bulky USB central spindle that loops up the otherwise thin USB cord when not in use. The X8's two big selling points would have to be the upper limit of its dpi settings (4,000dpi) and the fact that it uses Microsoft's generally excellent BlueTrack blue laser

technology. After the usual lengthy driver installation, we threw the X8 at a variety of games and found it generally excellent. There's some gimmicky stuff here, like an LED screen to indicate your current dpi setting — something that very quickly becomes apparent via mouse speed anyway — but overall response in our tests was excellent, even in a busy wireless environment. At its asking price, the X8 needs to deliver a lot. It's undoubtedly a niche product, but in the competitive field of gaming mice, it manages to stand out nicely.

— Alex Kidman

PC User says: A solid gaming mouse that works really well over wireless.

DUALSIM SLIDER

PRICE \$399 / **CONTACT** DUALSIM / **PHONE** (02) 9756 6224 / **WEB** www.dualsim.com.au

The DualSim's concept is all in the name: it's a slider-type GSM phone with provision for two SIM cards, whether you need one for work and personal use, or just to take advantage of different mobile coverage zones or payment rates. It's a solid idea that saves a lot of pocket space if you do need two mobile numbers. However, the physical phone hardware feels a little

under-baked. Menu selection is via a haptic touchpad embedded on the front, which works a little worse than a real selection dial would, and the buttons to the side of it are also a touch on the flimsy side. Given that you've got to select which SIM to use for each call, this can lead to a bit of mis-pressing. Its GSM-only nature means it's not suitable for data work, so Wi-Fi

is also notably absent. For this reason, we were surprised when it conked out on us after around a day and a half of light usage. Sure, it's got two GSM antennas to run, but this does indicate that a larger-capacity battery might have been a better idea.

— Alex Kidman

PC User says: The DUALSIM concept is solid, but this phone needs more work.



The final frontier

The **PC User** team takes a sneak peek at upcoming game releases, starting with an MMORPG set in the *Star Trek* universe.

STAR TREK ONLINE **PC**

ALSO ON XBOX 360 / **WEB** www.startrekonline.com / **RELEASED** 2009

Originally with *Perpetual*, the *Star Trek* licence changed hands just over a year ago. Despite starting with nothing but concept art, Cryptic has much of the game up and running already. Cryptic recently gave us the first look at a live demonstration of *Star Trek Online* in action. And when we say action, we mean it. The space combat section of the game evokes all the feelings the ship-to-ship battles of the movies and TV shows did. It's the sound

that immediately grabs you, with the high-pitched whine of phaser fire. What's really interesting is that it doesn't feel like standard MMO combat, despite running in the same engine that powers Cryptic's other upcoming biggie, *Champions Online*. In fact, it feels more like the naval combat of *Empire: Total War*, with you manoeuvring your ship to keep your strongest shields facing the enemy, or lining up a broadside of linked phaser fire from your

fore and aft banks and finishing the job with a storm of photon torpedoes. Your selected bridge crew pitches in when the particle weapons are charged, offering an array of extra skills to help out in a pinch. Coupled with episodic quest styling, this will be the *Star Trek* game to play when it warps onto store shelves. Mark our words.

— Dave James

PC User says: There's action aplenty in this MMO.



Your vessel choice can also include ships from the Klingon Empire.



Small Soldiers has an awful lot to learn from this.

R.U.S.E. **PC**

ALSO ON PS3, XBOX 360 / **WEB** www.rusegame.com / **RELEASED** 2009

These days, it's not often that you witness a game that causes a sudden lowering in the altitude of your mandible, so much so that it gets slobber on the carpet. Thankfully, *R.U.S.E.* has reminded us those games still exist. Make no mistake: it's still not doing anything spectacularly new, but it's turning the whole real-time strategy (RTS) genre on its head and shaking it about for good measure. Set in World War II, *R.U.S.E.* sees you take control of one of six factions for some RTS fare. Zooming out reveals that

the action is really occurring on a map in a sedate war room — the kind of simulation of the augmented reality it was predicted warmongers would be enjoying by now. The developers compared the game to playing poker, so it's going to involve a fair amount of bluffing and second-guessing. One of the first new original game ideas we can get genuinely excited about in 2009.

— Henry Winchester

PC User says: An exciting new twist on the RTS genre.

SECTION 8 **PC**

ALSO ON PS3, XBOX 360 / **WEB** www.joinsection8.com / **RELEASED** 2009

After being charged by Sierra to create two *FEAR* expansions, TimeGate is finally making the game it's been yearning to create: a multiplayer shooter with no niggly stuff. Cynics may mock *Section 8* for looking like a bog-standard space marine helmet shooter, but the game does things slightly differently. It's built from TimeGate's obsession with fixing things that bother its developers about games they play in their

spare time. So, the traditional point-capturing maps start off neutral and the system of 'burning in' — which lets you descend from your dropship that's hovering at 15,000 feet to land anywhere on the battlefield, anti-aircraft guns permitting — eliminates the predictability caused by spawn points in other genre titles, and will ensure no two games begin alike. 'Dynamic combat missions' allow one team

to challenge the other. Blue wants to take on an escort mission? Red is ordered to assassinate their entourage. Vehicles, mech suits and support items can be built as the round progresses. It may not be truly innovative, but come the other end of 2009, we could be looking at a very highly polished multiplayer experience.

— Jon Blyth

PC User says: A novel multiplayer concept.



The enemy faction is a rogue group of space-faring humans: the ARM of Orion.



Space-age combat

The **PC User** team reviews the hottest games for PC and consoles.

THE CHRONICLES OF RIDDICK: ASSAULT ON DARK ATHENA **PC**

ALSO ON PS3, XBOX 360 / PRICE \$79.95
WEB www.atari.com/riddick/

The first *Chronicles of Riddick* game had the odds stacked against it. A movie licence is bad enough, but a Vin Diesel movie licence? In any rational world, it would be doomed to an awful death. But something went right and *Escape From Butcher Bay* was an original combination of stealth, adventure, shooter, storytelling and brutal melee combat. Sure, it had Vin Diesel grunting the dialogue, but it was a cinematic experience and varied enough in its action to carry you through the short campaign. A reworked Director's Cut of *Butcher Bay* is included with *Dark Athena*, which is a comfortable update, an extension and new multiplayer section: the events of the two games are continuous and they've even picked up the numbered checkpoints from where the first game left off. Riddick is onboard a mercenary vessel run by a shouty and deranged villainess and populated by brain-dead security drones. Initially forced into melee combat, you can use the drone's weapon but they're surgically attached to their arms, so you have to lump the corpse around with you. It's a nice limiting touch



There are lots of guns, which is a shame as it's not as satisfying as the melee combat.

and sets the gory, metallic tone of the game. It's a shame guns become more common because they're not nearly as satisfying. The melee just feels better. For a game that was given extra time in development, it's surprising there's a persistent bug, locking movement in a direction until you tap the relevant W, A, S or D button again. We can only hope the patching process will quickly see to that. And the script? Well, it's pure macho crap from

Diesel, opposite some talent. Even the little girl scuttling around in the vents is performed and scripted well enough to not make you clench. Riddick occupies a narrow world of fiction where it could be taken seriously — or as a big joke. It has great pacing and variety, which means you'll never get bored.

— Jon Blyth

PC User says: A great extension of the shock-hit *Riddick* franchise.

TOM CLANCY'S ENDWAR **PC**

ALSO ON DS, PSP, PS3, XBOX 360 / PRICE \$89.95 / WEB www.endwargame.com

Do you have a microphone connected to your PC? Most mics are used for voice comms in online games or for Skype, but they can also be used for commanding tiny soldiers. Yes, the unique fragment of cleverness that gives *EndWar* a reason to exist is that its real-time strategies (RTS) are powered by your voice — you command your troops by telling them what to do. Before you're even allowed to glimpse a battlefield, you set up voice commands. Each word you utter makes up a command sentence, so you might say: "Unit, one, attack, Alpha". Unit one would then trundle off to raise hell at waypoint Alpha. It's an intuitive, easy-to-comprehend strategic system. The co-ordination of troops is fixed around the various waypoints across the

map and the behaviour of your enemies. Consequently, this isn't a complex RTS; it's hugely simplified: x beats y and that's all you need to know. While simple is fine for most PC gamers — and the trend in RTS games has been moving away from base building for some time — it means *EndWar* feels lacking. There's no layer of complexity. It's all about moving the right number of dudes to the right places, using your voice. The Tom Clancy near-future war scenario does nothing to sex up *EndWar's* contemporary conflict themes, so the whole game ends up coming off like a *Command & Conquer* effort with all the humour ruthlessly torn out. It's a drab, silly world stripped bare of any of the pizzazz or hyperbole of its RTS brethren. The nearby relaunch of *World in Conflict* (see page 105)

60%

Helicopters look cool, but they're actually fairly weak and useless.



is a timely nail in the coffin for *EndWar*: It has a similar stripped-down approach to RTS conflict and it's a pedigree of the genre in every sense. There's no reason why you'd buy *EndWar* over the far superior *Soviet Assault*. Ubisoft's vocal RTS is a brave failure.

— Jim Rossignol

PC User says: A splendid idea hampered by an average execution.



Axe-wielding, motorcycle-riding zombies are actually some of the less ridiculous enemies in *Resident Evil 5*.

80%

RESIDENT EVIL 5 X360

ALSO ON PS3 / PRICE \$119.95

WEB www.residentevil.com

Zombie purists beware: *Resident Evil 5* forgoes the traditional shambling monsters of the previous games, opting instead for 28 *Days Later*-style sprinting creatures. At its heart, however, it's still predominantly about blasting bad guys into gory bits, running low on ammo and solving environmental puzzles to progress. The biggest new feature, apart from a stronger focus on action, is that the entire game can be played co-operatively with a friend or AI team-mate, although ours stuck to a basic pistol when better weapons were readily available. The game's story (and there's plenty of it) is mainly told through cut scenes interspersed throughout the game. The third-person action gameplay works quite well as you face off against fast-moving African zombies and slightly incongruous (and questionably ridiculous) boss baddies. It looks great, with impressively detailed characters and animations and convincing environments. *Resident Evil 5*'s transition to a faster-paced title isn't entirely successful, though. For example, while the zombies are now nimble, your character seems unwieldy by comparison, unable to move and shoot at the same time. But its biggest shortcoming is its lack of ambition — it seems unwilling to cast off the series' old and clumsy gameplay elements to try something new and different. It's also pretty hard: we had to play through on the easiest difficulty setting before we were ready to tackle the standard mode (your weapons, ammo and other items are carried through when you start a new game).

— Dan Gardiner

PC User says: Generally good, gory fun, but misses true greatness because of a lack of ambition.



Classic steroid-oozing warriors in their primes are captured well.

50%

WWE LEGENDS OF WRESTLEMANIA X360

ALSO ON PS3 / PRICE \$109.95

WEB www.legendsofwrestlemania.com

WWE Legends of WrestleMania trades heavily — very heavily — on nostalgia. If you're a child of the '80s who grew up believing Hulk Hogan was truly immortal, Roddy Piper was truly despicable and Andre The Giant really did weigh 700lb, there's a lot to like about THQ's latest wrestling game (at least initially). The majority of the game focuses on key *WrestleMania* moments, allowing you to either relive classic matches as they happened, or rewrite history by changing their outcome. *Legends* sets the scene amazingly well, with each match accompanied by highlight footage of the feud that led up to each match to set the scene. The game gives you most of the old wrestling legends (except for Randy 'Macho Man' Savage) in an old-school-style arcade button-mashing game, peppered with a smattering of quicktime event-based wrestling sections. Nostalgia's all well and good, but it's that same simple style that proves its weakness as well. The fighting engine just isn't that deep and quickly becomes repetitive, especially in the 'Create a legend' mode, where you have to grind your way through 10 successive fights with a single health bar. Matches quickly devolve into working out the computer AI's weaknesses, and the relative lack of easy moves on offer makes for an ordinary multiplayer experience as well. That leaves *WWE Legends of WrestleMania* with a very small niche audience indeed, and it's one that would arguably be a bit better served with a selection of classic wrestling DVDs instead.

— Alex Kidman

PC User says: This game is not worthy of 'legendary' status.



Chinatown Wars brings more carnage, mayhem and minigames... lots of minigames.

PC USER BEST BUY

90%

GRAND THEFT AUTO: CHINATOWN WARS DS

PRICE \$69.95

WEB www.rockstargames.com/chinatownwars

Forget the fact that it's on the DS: Rockstar's latest *Grand Theft Auto* (GTA) is not for kids. Characters routinely drop the f-bomb and drug trading (which sees you buying and selling a medley of substances) is an integral part of getting ahead, and an addictive minigame in itself. In fact, the minigames are one area *Chinatown Wars* excels, bringing back all that was missing (and more) from GTA IV. Rockstar has also made excellent use of the DS control setup: the basic car and on-foot gameplay is still handled with the D-pad and buttons, but the stylus is frequently used to interact with onscreen elements in minigame inserts. Jump into a parked car and you'll be challenged to hotwire it by loosening screws and twisting wires; creating Molotov cocktails at a petrol station by guiding a petrol pump to fill a series of bottles into which you stuff rags. There's variety and uniqueness to the missions, and the impressive Liberty City is near-identical to the one used in GTA IV. *Chinatown Wars* also lifts other elements pioneered in GTA IV, such as the pedestrian and police missions. The storyline, told primarily through comic book-style mission briefs, is constantly funny, and the designers have peppered the city with so many other things to do it's easy to get sidetracked. The one downside is the narrow focus brought by the older-style top-down camera perspective; GPS navigation is critical for getting around. Overall, this is another fantastically addictive addition to the series. Oh, and we missed you, minigames — please don't leave again.

— Dan Gardiner

PC User says: A fun, wildly varied and innovative addition to the GTA line.



Execution moves are a mere button tap away. Charming.

70%

THE GODFATHER II PC

ALSO ON PS3, XBOX 360 / PRICE \$99.95

WEB <http://godfather2.ea.com>

The Godfather II places you in a world where criminal success is as dependent on human resources as it is on placing a shotgun in someone's mouth. You see, for a game that introduces you to mobdom by coercing a pimp via punching him in the face, there's a surprisingly intricate mob war system at play. When you're not engaged in the story missions, you'll have to take various crime rings and money laundering facilities away from rival families. With these you'll earn money, but you'll also have to pay for guards to hold off reprisal attacks. All of this is taken care of by a map system called The Don's View, which enables you to survey the *Monopoly*-styled environs of New York, Miami and Havana. From here you can send your people on bombing runs, keep tabs on the corrupt officials who have asked you to kill, maim or destroy in return for favours, and analyse your expenses. It's a neat system made more complex by the upgradable and specialised Made Men that dutifully follow you around, bolster your defences or can be sent out to attack strongholds. The game is prone to bugs so patching is a necessity, otherwise you'll find it frequently becomes unplayable. The Don's View suffers from rough edges as well and should have been better optimised for use with a mouse and keyboard. There's also little doubt that the micromanagement, specifically the options to do with your Made Men's stats and weapons, could have done with a trim. Overall, there's been an effort to do something interesting with *The Godfather II*, but with middling results.

—Will Porter

PC User says: *Coulda had class, coulda been a contender, but it isn't.*

If you enjoy demolishing picturesque French towns, this is the game for you.

PC USER
BEST
BUY

90%

WORLD IN CONFLICT: SOVIET ASSAULT PC

PRICE \$29.95, COMPLETE EDITION, \$49.95

WEB www.worldinconflict.uk.ubi.com

We're not certain it classes as madness, but it still can't be healthy to stare lovingly at a nuclear explosion and coo with delight. Yet a year on from its original release, *World in Conflict* remains a prime purveyor of fiery death clouds because it makes breathtaking beauty out of genocide. It's also one of the best RTS games in recent years, but it didn't attract the audience it deserved. With that in mind, *Soviet Assault* isn't so much an expansion pack as an attempt to relaunch the game. It can be bought as an expansion of the original game, or as part of a new *World in Conflict: Complete Edition* pack. Like the original campaign, the production values and writing are among the genre's finest, but the game's meagre six missions are workman-like tasters of the multiplayer meat — and dotted between the original missions. This makes for a beefy experience if you're new to the game, but a whole lot of repetition if you're an old hand. Sweetening the deal are two new multiplayer maps — this is where *World in Conflict* comes into its own, allocating each player a role (armour, infantry, air or support) that enables you to get hands-on. Played as a team game, it's an RTS fan's dream — responsive and explosive all-out warfare. The new maps don't alter the formula, so buying the expansion is crazy completionist's fare only; however, for newcomers, it makes a great RTS even better. The Best Buy award refers to the *Complete Edition*, which is a steal at \$50.

—Alec Meer

PC User says: *The Complete Edition is a great way to introduce newbies to this RTS masterpiece.*

60%

The manoeuvring looks fancy, but you're seldom able to bring real skill into H.A.W.X.

TOM CLANCY'S H.A.W.X. PC

PRICE \$89.95

WEB www.hawxgame.com

With a missile on my tail in the skies above Rio de Janeiro, I execute a perfect manoeuvre. Ramming on my airbrakes, I loop in the air, come face-to-face with my adversary and fire a missile right up his jet nozzle. Sounds great, right? Unfortunately, while Tom Clancy's *H.A.W.X.* does have jaw-dropping moments like these, they're relatively few and far between. And when flying 10,000 feet up in the air at 1,000km/h becomes boring, you know something's wrong. *H.A.W.X.* is set in Tom Clancy's near-future fictional world — a place full of gruff-voiced and ultra-serious men, where triumphant, jingoistic music plays constantly. And while Clancy's realm works fine for supporting the covert ops of *Splinter Cell*, in *H.A.W.X.* it sadly means you're thrust into a jet with an 'enhanced reality system', which pinpoints every target with floating icons. In fact, everything is so technically advanced there's little for meagre humans to do. While it may make flying easier, it's less fun when you're relegated to just steering and pulling the trigger. It's a bit like being an inner-city bus driver. Later in the game, this enhanced reality system is removed, leaving you to flail wildly around the sky like a one-winged pigeon. The problems don't end there, however. *H.A.W.X.* has a problem with scale too: the sat-mapped ground may look good from a distance, but once you get closer it becomes apparent that your plane is the size of a small village. There's definitely room in the market for a flight sim that mixes adrenaline-fuelled thrills with enough tech stuff to keep the hard-core happy. Unfortunately, *H.A.W.X.* isn't it.

—Henry Winchester

PC User says: *An occasionally thrilling but mostly boring and unbalanced flight sim.*



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BUYER'S GUIDE

PC SPECIFICATIONS / REVIEW HIGHLIGHTS

Your perfect PC

Darren Yates selects the best-value PC specifications for your needs.

Prices over the last month have defied trends and started heading south for hard drives, CPUs and surprisingly, versions of Microsoft's Windows Vista operating system. Coupled with noticeable falls in the prices of LCD monitors, it means that things have improved this month for would-be computer buyers.

SELECT YOUR OWN COMPONENTS

Our PerfectPC software has moved back into a beta phase as we trial some new options. It's become a real hit in recent months, with many readers asking for us to add extra features. You can now choose the component categories you wish to include. Obviously, the more categories you remove, the harder it is for the software to make a build that reaches your desired price, because there are less components to choose from. But for those who don't want to include an operating system or a monitor, for example, you'll be able to choose your own specific build.

SYSTEM EXAMPLES

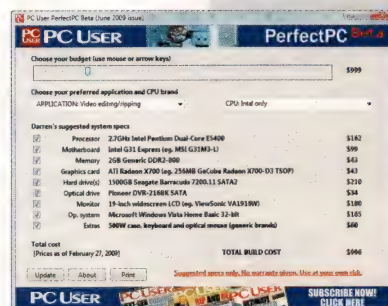
The general slide in prices continues to point to \$1,500 as being the sweet spot for a budget performance desktop. And based on what the PerfectPC software has served up this month, a \$1,500 PC can now be an absolute cracker for value. For a gaming system, you can knock up a 2.93GHz Core 2 Duo E7500 processor together with an ATI Radeon HD 4870 graphics card, get 1,000GB of hard drive space and a 22in monitor.

However, it's the video editing system

that really delivers — it's the first time we've seen PerfectPC be able to build a system for under \$1,500 that delivers a huge 2,250GB of hard drive space, which is enough room for a heck of a lot of movies. The all-rounder system isn't too shabby either, with 2,000GB of storage plus an ATI Radeon HD 4830 graphics card. AMD fans can get a triple-core Phenom II X3 720, an ATI Radeon HD 4830 graphics card and 2,000GB of storage for that \$1,500 price tag.

Note that systems for under \$1,000 can create a bit of a squeeze on features, whereas

Even with just \$1,000, you can build a very decent video editing system (and one that's very overclockable).



spending \$2,000 doesn't seem to really gain you a lot more. That means \$1,500 really is the sweet spot all round.

PC USER'S RECOMMENDED PC SPECIFICATIONS

| | Gaming PC under \$1,500 | Video editing PC under \$1,500 | All-rounder PC under \$1,500 | |
|--|---|---|---|---|
| Platform | Intel | Intel | Intel | AMD |
| Processor | 2.93GHz Intel Core 2 Duo E7500 | 2.93GHz Intel Core 2 Duo E7500 | 2.93GHz Intel Core 2 Duo E7500 | 2.8GHz AMD Phenom II X3 720 |
| Motherboard | Intel P43 Express (such as ASUS P5QL Pro) | Intel P43 Express (such as ASUS P5QL Pro) | Intel P43 Express (such as ASUS P5QL Pro) | AMD 780G (such as ASUS M4A78-EM) |
| Memory | 3GB DDR2-800 | 3GB DDR2-800 | 3GB DDR2-800 | 3GB DDR2-800 |
| Graphics card | ATI Radeon HD 4870 | ATI Radeon HD 4350 | ATI Radeon HD 4830 | ATI Radeon HD 4830 |
| Hard drive(s) | 2 x 500GB Seagate 7200.12 SATA II (1,000GB) | 3 x 750GB Samsung HD753LJ SATA II (2,250GB) | 2 x 1,000GB Samsung HD103UI SATA II (2,000GB) | 2 x 1,000GB Samsung HD103UI SATA II (2,000GB) |
| Optical drive, monitor, operating system and extras | Pioneer DVR-216BK DVD burner, 22in widescreen LCD (such as ASUS VW220T), Windows Vista Home Premium SP1, 500W case, generic keyboard, mouse | | | |
| Estimated price (including GST) | \$1,485 | \$1,495 | \$1,487 | \$1,491 |
| Alternatives/upgrades | A digital TV tuner card for media centre applications, a second DVD burner for disc copying, multichannel speaker system, consider using RAID on the hard drives. | | | |

TECH TERMS: **Chipset.** A pair of chips on the motherboard (main circuit board inside the PC) that control many key functions, including which processors can be installed. **SLI or CrossFire.** Support for two graphics cards to run together for improved 3D gaming performance. SLI is for Nvidia-based boards, CrossFire is for AMD cards. **RAID.** Refers to a number of ways of using two or more hard disk together. RAID 0 pools disk space to improve performance. RAID 1 mirrors two disks to safeguard data. RAID 5 is less wasteful than RAID 1, losing only one drive's capacity for data redundancy.

TOP 100 PRODUCTS: PCs_NOTEBOOKS_GPS DEVICES_108

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• LCD MONITORS_MP3 PLAYERS_BROADBAND SERVICES_110

• GRAPHICS CARDS_DIGITAL CAMERAS_GAMES_111 • STORAGE_NETWORKING_112

BUYER'S GUIDE > Top 100 products

PC SPECIFICATIONS / REVIEW HIGHLIGHTS



Excel Computers Excel P-285

\$1,999 / EXCEL
COMPUTERS
(02) 9649 6668

www.excelcomputers.com.au

With an almighty overclock, this system features Intel's 3.16GHz Core 2 Duo E8500 running at 3.99GHz. With the GeForce GTX 285 graphics card, it tore through our gaming benchmarks. It's also got plenty of storage in the form of two 750GB Western Digital hard drives.

rating **90%**

twinhead.com.au

Twinmate NX10 by Twinhead



True mobility at its best ever.

Power-packed within a compact design with small footprint, the new Twinmate NX10 offers you the ideal balance between Power and Mobility with optional 3G.

For user's convenience and practical reasons, it is optimized with a display size of 10.2" wide screen (WXGA) and yet weight in 1.2kg only.

First in the world with unprecedented "FANLESS" heat management & "Non-explosive Polymer Lithium battery" in a Intel Atom 1.6GHz machine is another engineering breakthrough that has permanently eliminated the risk of overheating.

TWINHEAD
The Notebook Specialist

PCs

| Product | Review issue | Key specs | PC User says | Value rating |
|---|---------------|---|---|--------------|
| Excel Computers Excel P-285 \$1,999 www.excelcomputers.com.au | May 2009 | Intel Core 2 Duo E8500 3.16GHz (overclocked to 3.99GHz), 2 x 750GB HDD, 2GB RAM | "All-round processing and gaming goodness here." | 90% |
| TI Computers TI Power 2000 \$1,999 www.ticomputers.com.au | May 2009 | Intel Core 2 Duo E8500 3.16GHz, 3 x 500GB HDD, 2GB RAM | "A different build to the Excel system, but barely a struck match between them." | 90% |
| PC eXpress Phoenix 4000B \$2,999 www.pc-express.com.au | May 2009 | Intel Core i7 920 2.66GHz, 2 x 1,000GB HDD, 3GB RAM | "Has the slowest clock speed, but the <i>Crysis</i> numbers tell a different story." | 85% |
| Pacstar Australia Super Value 2009 \$999 www.pacstarcomputer.com.au | April 2009 | 2.5GHz Intel Pentium Dual-Core E5200 (3.3GHz), 750GB HDD, 2GB RAM | "Overclocked CPU with truckloads of speed and even a 22in monitor." | 90% |
| TI Computers TI Deluxe 2000 \$1,999 www.ticomputers.com.au | February 2009 | Intel Core 2 Duo E8600 3.33GHz, 2 x 1,000GB HDD, 2GB RAM | "A PC with rip-roaring speed and an easier gaming upgrade plan." | 90% |
| Pacstar Australia 24in HD Value PC \$1,999 www.pacstarcomputer.com.au | February 2009 | Intel Core 2 Duo E8500 3.16GHz, 1,000GB + 2 x 640GB HDD, 2GB RAM | "The only 24in LCD monitor in the roundup and lots of neat extras make this a great alternative." | 85% |
| PC eXpress Invader 506B \$1,999 www.pc-express.com.au | February 2009 | Intel Core 2 Duo E8500 3.16GHz, 2 x 1,000GB HDD, 2GB RAM | "Cracking performance for the price makes this one hard to beat." | 85% |
| Pacstar Australia Games PC 2009 \$1,499 www.pacstarcomputer.com.au | January 2009 | Intel Core 2 Duo E8500 3.16GHz, 2 x 750GB HDD, 2GB RAM | "Excellent combination of speed and storage." | 90% |
| PC eXpress Invader 503B \$1,499 www.pc-express.com.au | January 2009 | Intel Core 2 Duo E8400 3GHz, 1,000GB HDD, 2GB RAM | "Can handle everything from gaming to video editing and digital TV." | 90% |
| Pacstar Australia Value PC 2009 \$999 www.pacstarcomputer.com.au | January 2009 | Intel Pentium Dual-Core E5200 2.5GHz, 1,000GB HDD, 2GB RAM | "For the gamer on a budget, this is as good as it gets for \$1,000." | 85% |
| PC eXpress Lite 205B \$999 www.pc-express.com.au | January 2009 | Intel Pentium Dual-Core E5200 2.5GHz, 750GB HDD, 2GB RAM | "A 22in LCD and reasonable inclusions make this a standout." | 85% |

NOTEBOOKS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|--------------|--|---|--------------|
| MSI Wind U100 \$640 www.msicomputer.com.au | March 2009 | 1.6GHz Intel Atom N270, 1GB RAM, 120GB HDD, 10.1in TFT | "The best netbook we've seen so far." | 90% |
| MSI EX300 \$1,580 www.msicomputer.com.au | March 2009 | 2.26GHz Intel Core 2 Duo P8400, 2GB RAM, 250GB HDD, 13.3in TFT | "Excellent mix of features, portability, speed and price." | 90% |
| MSI EX720 \$1,650 www.msicomputer.com.au | March 2009 | 2.26GHz Intel Core 2 Duo P8400, 4GB RAM, 320GB HDD, 17.1in TFT | "A 17in notebook loaded with features at this price is a damn fine effort." | 90% |
| Dell Latitude E4300 \$3,366 www.dell.com.au | March 2009 | 2.4GHz Intel Core 2 Duo P9400, 4GB RAM, 160GB HDD, 14.1in TFT | "On a performance per dollar basis, the E4300 is a clear winner." | 85% |
| Dell Studio 15 \$1,999 www.dell.com.au | March 2009 | 2.5GHz Intel Core 2 Duo T9300, 4GB RAM, 320GB HDD, 15.4in TFT | "The Dell Studio 15 has good speed, lots of extras and a nice price." | 85% |
| HP Compaq 6730B FP582PA \$1,600 www.hp.com.au | March 2009 | 2.26GHz Intel Core 2 Duo P8400, 2GB RAM, 160GB HDD, 15.4in TFT | "An ideal, no-nonsense notebook with good speed and battery life." | 85% |
| MSI PR201 \$1,500 www.msicomputer.com.au | March 2009 | 2GHz Intel Core 2 Duo P7350, 2GB RAM, 250GB HDD, 12.1in TFT | "The best 12.1in ultraportable notebook we've seen for under \$2,000." | 85% |

GPS DEVICES

| Product | Review issue | Key specs | PC User says | Value rating |
|---|---------------|------------------------|--|--------------|
| Mio Moov 370 \$530 www.mio-tech.com.au | November 2008 | GPS device over \$500 | "This new version is still big on value and performance." | 90% |
| Uniden Trax 430 \$350 www.uniden.com.au | November 2008 | GPS device under \$500 | "A great little unit from Uniden." | 85% |
| Garmin Nuvi 250 \$230 www.garmin.com.au | November 2008 | Budget GPS device | "You can't go wrong with the Nuvi given its price and features." | 85% |



PC COMPONENTS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|---------------|-------------------------------|---|--------------|
| ASUS P5Q-EM \$220 www.asus.com.au | February 2009 | Intel motherboard over \$200 | "A small board loaded with features and value." | 90% |
| Nvidia GeForce 9600 GT \$160 www.nvidia.com | February 2009 | Budget graphics card | "One of the fastest budget cards around." | 90% |
| Nvidia GeForce 9800 GT \$220 www.nvidia.com | February 2009 | Mid-range graphics card | "Great for medium-resolution games." | 90% |
| Cooler Master V8 \$89 www.coolermaster.com | February 2009 | All-purpose heatsink | "The best all-round cooler in the roundup." | 90% |
| ASUS M3A78-EM \$130 www.asus.com.au | February 2009 | AMD motherboard under \$200 | "A good-value AMD-ready motherboard." | 85% |
| ASUS P5QL-EM \$170 www.asus.com.au | February 2009 | Intel motherboard under \$200 | "This is arguably the ultimate home entertainment board under \$200." | 85% |
| Gigabyte GA-EG31MF-S2 \$120 www.gigabyte.com.au | February 2009 | Intel motherboard under \$200 | "Cheap, but it has plenty of features." | 85% |
| Gigabyte GA-EP45-DS5 \$270 www.gigabyte.com.au | February 2009 | Intel motherboard over \$200 | "A little more expensive, but a real enthusiast's dream board." | 85% |
| AmacroX Free Style AX1000-EP \$315 www.amacrox.com | February 2009 | 1,000W power supply unit | "Excellent value for money, an efficient and very capable 1kW PSU." | 85% |
| ATI Radeon HD 4850 \$265 www.amd.com | February 2009 | Mid-range graphics card | "Performs better than the 9800 GT, but shop around to find the best price." | 85% |
| Seasonic M12II SS-500GM \$159 www.seasonic.com | February 2009 | 500W power supply unit | "The best PSU in this group, but for single graphics card PCs only." | 85% |

SOFTWARE

| Product | Review issue | Key specs | PC User says | Value rating |
|--|--------------|--|---|--------------|
| MovieStorm Free www.moviesstorm.co.uk | May 2009 | 3D movie-making tool | "This will have you making 3D movies in no time." | 95% |
| DAZ Studio 2.2 Free www.daz3d.com | May 2009 | 3D modelling tool | "A good, free 3D modelling program." | 90% |
| Smith Micro Poser 7 From US\$249.99 http://my.smithmicro.com | May 2009 | 3D character design tool | "An excellent 3D character design tool." | 90% |
| Reallusion iClone3 From \$189.95 www.reallusion.com | May 2009 | 3D modelling and animation tool | "Easy to use, with pro features." | 90% |
| Apple iLife '09 \$129 www.apple.com.au | April 2009 | Software for managing and creating digital media | "A great tool and the instrument lessons are a valuable addition." | 90% |
| Sony Vegas Movie Studio Platinum 9 From \$119 www.sonycreativesoftware.com.au | March 2009 | Video editing software | "A great consumer video production tool with decent Blu-ray support." | 90% |
| Sony ACID Pro 7 \$599 www.sonycreativesoftware.com.au | March 2009 | Music creation software | "A much better update than the last couple." | 90% |

HOME ENTERTAINMENT

| Product | Review issue | Key specs | PC User says | Value rating |
|---|----------------|--|--|--------------|
| Western Digital WD TV \$230 www.wdc.com | March 2009 | Media player with composite and HDMI outputs, analogue and optical audio out | "A fantastic-value media player." | 90% |
| Popcorn Hour A-110 \$400 www.popcornhour.com | March 2009 | Media player with HDMI, component and S-Video outputs, composite and optical audio out | "A very flexible network media player." | 85% |
| Epson EH-TW3000 \$2,999 www.epson.com.au | March 2009 | 1080p 3LCD projector | "One of the best budget 1080p projectors currently available." | 85% |
| Logitech Pure-Fi Dream \$275 www.logitech.com.au | January 2009 | iPod audio system with iPod dock and clock radio | "A great little iPod stereo for the bedroom." | 85% |
| Samsung HT-BD2T \$1,200 www.samsung.com.au | January 2009 | 7.1 surround sound system | "For a no-fuss Blu-ray solution, add a TV and you'll be in HD heaven." | 85% |
| Belkin TuneStudio \$399 www.belkin.com/au | September 2008 | Small-scale music production device | "A great budget solution for small-scale music production." | 95% |



Western Digital WD TV

\$230 / www.wdc.com

New to the media player market, Western Digital has done well on its debut. The WD TV is designed for use with a USB hard drive. The unit scans and indexes all the compatible media files it finds and plays almost anything, including HD video.

rating **90%**

BULLGUARD INTERNET SECURITY



- Fast Scan times
- Better PC performance
- Backup and 5GB Storage

BUYER'S GUIDE > Top 100 products

PC SPECIFICATIONS / REVIEW HIGHLIGHTS

Apple iPod Nano

\$199 (8GB)

APPLE
13 36 22

www.apple.com.au

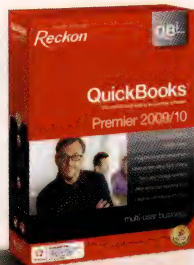
This new version of the popular iPod Nano comes in a slimmer, portrait-style form factor. The screen is now covered with an optical-grade glass instead of plastic, and the new accelerometer feature changes the screen orientation when the unit is turned on its side.

rating **90%**

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LCD MONITORS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|---------------|-----------------------------|---|--------------|
| BenQ G2400WD \$410 www.benq.com.au | February 2009 | 24in LCD monitor | "HDMI-ready and full 1,920 x 1,200-pixel resolution for \$410." | 85% |
| Dell 2408WFP \$999 www.dell.com.au | June 2008 | 24in LCD monitor | "It's pricey, but the best things in life often are." | 95% |
| LG W2242T \$370 www.lge.com.au | June 2008 | 22in widescreen LCD monitor | "Not loaded with features, but offers reasonable image quality." | 80% |
| Philips 220CW \$399 www.philips.com.au | June 2008 | 22in widescreen LCD monitor | "A reasonable monitor, but expensive considering the lack of extras." | 80% |
| ViewSonic VX2255WMH \$390 www.viewsonic.com.au | June 2008 | 22in widescreen LCD monitor | "Getting long in the tooth, but delivers an excellent stand." | 80% |

MP3 PLAYERS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|---------------|---------------------------------------|--|--------------|
| Apple iPod Classic \$339 (120GB) www.apple.com.au | November 2008 | Hard drive-based video and MP3 player | "It doesn't have the latest features of the Nano or Touch, but for value, this one is hard to beat." | 90% |
| Apple iPod Nano 8GB \$199 www.apple.com.au | November 2008 | Flash-based video and MP3 player | "A bigger screen and lower price, but also lower video battery life." | 90% |
| Apple iPod Touch \$549 (32GB) www.apple.com.au | November 2008 | Flash-based video and MP3 player | "Lower price and improved battery life make the Touch good value." | 90% |
| SanDisk Sansa Clip \$99 (4GB) www.sandisk.com.au | November 2008 | Flash-based audio only MP3 player | "FM receiver, excellent audio and 4GB of storage for \$99." | 90% |
| Creative Zen \$149 (4GB) www.creative.com.au | November 2008 | Flash-based video and MP3 player | "Excellent codec support with expandable SDHC storage." | 90% |
| SanDisk Sansa View \$219 (8GB) www.sandisk.com.au | November 2008 | Flash-based video and MP3 player | "Good quality with features the Nano doesn't have." | 85% |

BROADBAND SERVICES

| Product | Review issue | Key specs | PC User says | Value rating |
|--|--------------|---|---|--------------|
| netXP Value5 \$29.90/month www.netxp.com.au | April 2009 | Unbundled, maximum speed 256Kbps download, data limit 5GB | "netXP took the line honours last year and it's a return for the low-budget plan this year." | 90% |
| iSage Snowstorm 256 \$29.95/month www.isage.net.au | April 2009 | Bundled, maximum speed 256Kbps download, data limit 15GB peak/5GB off-peak | "This one has a nice, short contract term (six months), and a respectable 20GB allowance." | 90% |
| iSage Blizzard 512 From \$39.95/month www.isage.net.au | April 2009 | Bundled or unbundled, maximum speed 512Kbps download, data limit 25GB peak/10GB off-peak | "iSage took out the awards for best-value bundled and unbundled with the same great plan." | 90% |
| Local Australis 30/10 From \$54.95/month www.australis.net | April 2009 | Bundled or unbundled, maximum speed 1,500Kbps download, data limit 30GB peak/10GB off-peak | "The plans under \$60 a month were dominated by Local Australis." | 90% |
| Internode Home-Extreme-Pro \$89.95/month www.internode.on.net | April 2009 | Unbundled, maximum speed 24,576Kbps download, data limit 55GB | "This plan offers a good mix of data and speed." | 85% |
| Netspace ADSL2+ 160GB \$79.95/month www.netspace.net.au | April 2009 | Bundled, maximum speed 24,576Kbps download, data limit 40GB peak/120GB off-peak | "Netspace sits at the top of the nationally available, non-upload-counting pack." | 95% |
| iNet Home 7 \$129.95/month www.inet.net.au | April 2009 | Maximum speed 24,576Kbps download, data limit 40GB peak/60GB off-peak | "This one beat the rest because it offers longer off-peak times and a shorter contract period." | 85% |
| Exetel NAK2B \$55/month www.exetel.com.au | April 2009 | Naked ADSL plan, maximum speed 24,576Kbps download, data limit 54GB peak/12GB off-peak | "Exetel managed to pull out all the stops with this one." | 95% |
| PennyTel Free Access Untimed www.pennytel.com | April 2009 | 8c untimed local calls, international calls from 8c untimed | "Dirt cheap calls for excellent overall value." | 95% |
| PennyTel Freedom \$5/month www.pennytel.com | April 2009 | 8c untimed local calls, international calls from 8c untimed, 80 free calls per month | "Combines cheap call rates with 80 free calls per month to set destinations." | 90% |
| SkypeOut Unlimited World Monthly €8.95 www.skype.com | April 2009 | 10,000 free minutes per month | "The value of this plan is hard to beat." | 85% |
| Exetel Post Paid B \$5/month www.exetel.com.au | April 2009 | Includes \$5 monthly call credit, 10c untimed local calls, international calls from 2c a minute | "Combines competitive pricing with a fair whack of potential data to use it with." | 85% |
| Telstra BigPond Next G From \$59.95/month www.bigpond.com.au | April 2009 | Mobile broadband network, 1GB data allowance, 25c/MB for excess data, 3Mbps+ speeds | "Pricey, but there's no denying that Telstra has built a brilliant mobile broadband network." | 90% |



GRAPHICS CARDS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|--------------|-------------------------------|---|--------------|
| PowerColor AX4830 512MB D3-H \$220 www.powercolor.com | March 2009 | ATI Radeon HD 4830, 512MB | "A great-value mid-range card." | 90% |
| ASUS EAH4850 TOP HTDI/512M/A \$290 www.asus.com.au | March 2009 | ATI Radeon HD 4850, 512MB | "A fast 4850 and comes at a reasonable price." | 85% |
| Galaxy GeForce 9800GT 512MB \$210 www.galaxytech.com | March 2009 | Nvidia GeForce 9800 GT, 512MB | "Offers solid performance at a decent price." | 85% |
| Gigabyte GV-R467D3-512I \$150 www.gigabyte.com.au | March 2009 | ATI Radeon HD 4670, 512MB | "Great performance for a budget card, with good-quality power components and HDMI." | 85% |

DIGITAL CAMERAS

| Product | Review issue | Key specs | PC User says | Value rating |
|--|---------------|---|--|--------------|
| Nikon Coolpix L18 \$180 www.nikon.com.au | November 2008 | 8-megapixel camera with 3x optical zoom | "The best under \$200." | 90% |
| Canon Digital IXUS 80 IS \$240 www.canon.com.au | November 2008 | 8-megapixel camera with 3x optical zoom | "An excellent camera with image stabiliser for under \$300." | 90% |
| Kodak EasyShare V1073 \$200 www.kodak.com.au | November 2008 | 8-megapixel camera with 3x optical zoom | "720p video at 30fps with a \$299 camera makes us happy." | 85% |

GAMES

| Product | Review issue | Key specs | PC User says | Value rating |
|---|---------------|---|---|--------------|
| Street Fighter IV \$119.95 www.streetfighter.com | May 2009 | Arcade fighter game for Xbox 360 | "A big welcome back for the <i>Street Fighter</i> crowd and an excellent arcade fighter." | 95% |
| Empire: Total War \$99.95 www.totalwar.com/empire/ | May 2009 | Strategy game for PC | "Covers all the real-time and turn-based strategy bases." | 90% |
| Zoombinis Maths Learning System \$29.95 www.mindscape.com.au | April 2009 | Educational maths game for children over eight years | "Our favourite kids maths software ever — and not a number in sight." | 95% |
| Knowledge Adventure: Books by You! \$29.95 www.dataworks.com.au | April 2009 | Educational creative writing software for children over eight years | "This is the best creative writing package we've seen." | 90% |
| Leapfrog Tag Reading System \$99.95 www.leapfrog.com.au | April 2009 | Educational reading software for children from four to eight years | "A great way to develop reading skills without the help of an adult." | 90% |
| Killzone 2 \$109.95 www.killzone.com | April 2009 | First-person shooter for PS3 | "The killer FPS PS3 owners have been waiting for." | 90% |
| World of Goo US\$20 download www.worldofgoo.com | March 2009 | Puzzle game for PC | "Indie gaming's finest hour and the best puzzle game since <i>Lemmings</i> ." | 95% |
| Mortal Combat vs DC Universe \$119.95 www.worldscollide.com | March 2009 | Fighter for PS3 and Xbox 360 | "A throwback to the <i>Mortal Kombat</i> games of old." | 85% |
| Football Manager 2009 \$89.95 www.footballmanager.com | March 2009 | Sports sim for PC | "A new 3D engine in addition to the regular updates." | 85% |
| Tomb Raider: Underworld \$69.95 www.tombraider.com | February 2009 | Adventure game for PC and consoles | "The best game in the series." | 90% |
| Left 4 Dead \$99.95 www.l4d.com | February 2009 | First-person shooter for PC and Xbox 360 | "Sometimes a brain-dead shooter is a very good thing." | 90% |
| World of Warcraft: Wrath of the Lich King \$59.95 www.worldofwarcraft.com/wrath | February 2009 | RPG for PC | "Fans won't be disappointed with what's on offer in this chilly new land." | 90% |
| Fallout 3 \$99.95 http://fallout.bethsoft.com | January 2009 | RPG for PC and Xbox 360 | "An RPG masterpiece whose size and level of detail overcome its flaws." | 90% |
| Far Cry 2 \$89.95 www.farcry2.com | January 2009 | First-person shooter for PC | "This is how shooters should be made." | 90% |
| Gears of War 2 \$99.95 http://gearsofwar.xbox.com | January 2009 | Third-person shooter for Xbox 360 | "Doesn't bring anything incredibly new, but doesn't really need to." | 90% |



Street Fighter IV

\$119.95 / PC, PS3, XBOX 360
www.streetfighter.com

The latest *Street Fighter* game features well-known characters from early games and combines this with an enjoyable combat system that even novices will be able to grasp. It's engaging, frantic, fast and fun, and we think it's the first can't-miss game of 2009.

rating **95%**



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PC SPECIFICATIONS / REVIEW HIGHLIGHTS



Billion BiPAC 7402GXL

\$260 / PC RANGE

(08) 8186 1800

www.billion.com.au

This ADSL router also features support for 3G broadband. Plugging in a 3G dongle into the USB port on the back got us up and running very quickly. There are also four Fast Ethernet ports and a decent wireless range. About the only thing it lacks is 802.11n.

rating **90%**

STORAGE

| Product | Review issue | Key specs | PC User says | Value rating |
|---|--------------|-------------------------------|---|--------------|
| Pioneer DVR-216BK \$35 www.pioneer.com.au | May 2009 | SATA 20x DVD burner | "The best overspeed burning drive we've seen, and what a price!" | 95% |
| APACER Handy Steno AH421 16GB \$85 www.apacer.com | May 2009 | USB flash drive | "A good design and excellent performance at a nice price." | 90% |
| Buffalo DriveStation Combo 4 HD-HS500Q 500GB \$249 www.buffalo-asia.com | May 2009 | External eSATA hard drive | "Great performance, thanks to eSATA and FireWire 800, as well as excellent software." | 90% |
| LaCie Rugged Hard Disk 500GB \$325 www.lacie.com.au | May 2009 | Rugged external hard drive | "Fast, flexible, durable and reliable, but ugly and a tad expensive." | 90% |
| Samsung SpinPoint F1 1TB \$175 www.samsung.com/au | May 2009 | Mid-range internal hard drive | "A great-value offering with solid performance and good thermals." | 90% |

NETWORKING

| Product | Review issue | Key specs | PC User says | Value rating |
|--|--------------|-------------------------------------|--|--------------|
| Billion BiPAC 7402GXL \$260 www.billion.com.au | May 2009 | Dual ADSL/3G router | "A neat dual ADSL/3G router that works well overall." | 90% |
| Linksys WRT610N \$280 www.linksys.com.au | January 2009 | 802.11n wireless router | "It's not cheap, but it's smart and very fast to boot." | 85% |
| DVICO TVIX M-6500A \$530 www.tvix.co.kr/eng | January 2009 | Network streaming device | "A media streamer that can do it all." | 85% |
| Billion BiPAC 7402NX \$295 www.billion.com.au | October 2008 | 802.11n ADSL 2+ router | "Very fast and capable." | 90% |
| QNAP TS-109 II \$315 www.qnap.com | October 2008 | Single-drive network storage device | "No redundancy here, but you get lots of features for the price." | 90% |
| D-Link DNS-313 \$160 www.dlink.com.au | October 2008 | Single-drive network storage device | "No redundancy, but cheap, versatile and easy to set up." | 90% |
| D-Link DNS-343 \$599 www.dlink.com.au | October 2008 | Four-drive RAID storage device | "No built-in web server, but this one is fast and good value for money." | 90% |
| Netgear EVA8000 \$415 www.netgear.com.au | October 2008 | Media streaming device | "Great file support — will even support YouTube videos." | 90% |

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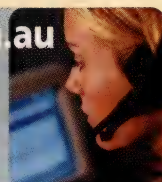
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| <p>Office XP Standard Upgrade 1-User \$125 5-User \$500</p> | <p>Office 2007 Small Business Upgrade \$359 New Install[†] \$479</p> | <p>Office 2007 Professional Upgrade \$469 Acad./Home \$345</p> | <p>Project 2007 1-User \$895 2-User Per User \$795</p> |
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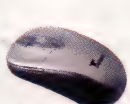
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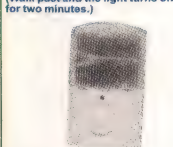
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Sharp Thermal Fax Rolls

| Model | Genuine | TONNY |
|---------|---------|---------|
| FO-3CR | \$31.00 | \$16.00 |
| FO-6CR | \$24.00 | \$18.00 |
| FO-9CR | \$30.00 | \$18.00 |
| FO-15CR | \$44.00 | \$21.00 |

Epson Toner Cartridges

| Model | Genuine | TONNY |
|---------------------|----------|----------|
| EPL-5700/5800 | \$196.00 | \$49.00 |
| EPL-5900/6100 | \$213.00 | \$49.00 |
| EPL-6200 | \$163.00 | \$49.00 |
| AL-C900/1900BK | \$102.00 | \$65.00 |
| AL-C900/1900C/M/Y | \$220.00 | \$65.00 |
| AL-CX11N/C1100BK | \$107.00 | \$49.00 |
| AL-CX11N/C1100C/M/Y | \$164.90 | \$49.00 |
| AL-C1000/2000BK | \$124.00 | \$105.00 |
| AL-C1000/2000C/M/Y | \$249.00 | \$115.00 |

Panasonic Thermal Film

| Model | Genuine | TONNY |
|----------|---------|----------------|
| KX-FA54E | \$49.00 | \$18 Twin Pack |
| KX-FA55A | \$49.00 | \$19 Twin Pack |
| KX-FA134 | \$82.00 | \$35 Twin Pack |
| KX-FA136 | \$63.00 | \$26 Twin Pack |

Lexmark Toner Cartridges

| Model | Genuine | TONNY |
|------------------|----------|---------|
| Optra E/E+ | \$142.00 | \$59.00 |
| E120 prebate | \$110.00 | \$55.00 |
| E210 | \$152.00 | \$49.00 |
| X215 | \$112.00 | \$49.00 |
| E220 prebate | \$129.00 | \$79.00 |
| Model | Genuine | TONNY |
| E230/232/330/332 | \$122.00 | \$55.00 |
| E310/312 (3k) | \$176.00 | \$73.00 |
| E320/322 (3k) | \$155.00 | \$82.00 |
| E321/323 (3k) | \$155.00 | \$85.00 |
| X342n (2.5k) | \$137.00 | \$69.00 |

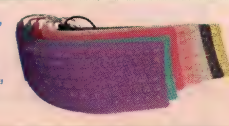
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Epson Ink Cartridges

| Model | Genuine | TONNY |
|---------------------------|---------|---------|
| T028 | \$43.60 | \$ 4.40 |
| T029 | \$39.10 | \$ 4.90 |
| T038 | \$20.00 | \$ 5.00 |
| T039 | \$28.40 | \$ 5.60 |
| T0461 | \$22.00 | \$ 4.50 |
| T0472/3/4 | \$14.90 | \$ 4.50 |
| T0491/2/3 | \$21.00 | \$ 4.50 |
| T0494/5/6 | \$21.00 | \$ 4.50 |
| T0621 | \$22.00 | \$ 5.20 |
| T0631 | \$16.00 | \$ 5.20 |
| T0632/3/4 | \$15.20 | \$ 5.20 |
| 73N BK (T0731) | \$17.00 | \$ 7.40 |
| 73N C/M/Y (T0732/3/4) | \$17.00 | \$ 7.40 |
| 81N BK (T0811) | \$27.00 | \$ 8.40 |
| 81N C/M/Y (T0812/3/4/5/6) | \$27.00 | \$ 8.40 |
| S020089 / T052 | \$35.10 | \$ 4.80 |
| S020093 / T050 | \$29.00 | \$ 4.80 |
| S020187 / T050 | \$28.00 | \$ 4.80 |
| S020189 / T051 | \$32.00 | \$ 4.80 |
| S020191 / T052 | \$34.00 | \$ 4.80 |

Lexmark Ink Cartridges

| Model | Genuine | TONNY |
|---------------|---------|---------|
| 18C0781A (#1) | \$36.90 | \$24.60 |
| 10N0016 (#16) | \$49.30 | \$18.40 |
| 15M0120 (#20) | \$63.60 | \$24.00 |
| 10N0026 (#26) | \$53.00 | \$23.00 |
| 18C0032 (#32) | \$36.90 | \$21.30 |
| 18C0033 (#33) | \$39.80 | \$23.10 |
| 18C0034 (#34) | \$41.60 | \$25.00 |
| 18C0035 (#35) | \$49.30 | \$27.00 |
| 12A1970 (#70) | \$55.90 | \$21.00 |
| 18L0032 (#82) | \$50.20 | \$26.10 |
| 18L0042 (#83) | \$62.60 | \$23.90 |

Brother Ink Cartridges

| Model | Genuine | TONNY |
|------------|---------|---------|
| LC-37BK | \$25.20 | \$ 5.00 |
| LC-37C/M/Y | \$16.60 | \$ 6.50 |
| LC-38BK | \$24.50 | \$ 5.00 |
| LC-38C/M/Y | \$15.90 | \$ 6.50 |
| LC-47BK | \$34.60 | \$ 5.00 |
| LC-47C/M/Y | \$20.80 | \$ 6.50 |
| LC-57BK | \$34.50 | \$ 5.00 |
| LC-57C/M/Y | \$20.80 | \$ 6.50 |

HP Ink Cartridges

| Model | Genuine | TONNY |
|----------------------------------|---------|---------|
| C8721WA (#02BK) | \$28.20 | \$11.00 |
| C8771/2/3/4/5WA (#02C/M/Y/LC/LM) | \$16.60 | \$ 8.20 |
| C6615DA (#15) | \$42.40 | \$14.10 |
| C9351AA (#21) | \$24.00 | \$16.00 |
| C9352AA (#22) | \$27.30 | \$21.00 |
| C8727AA (#27) | \$28.90 | \$14.10 |
| C8728AA (#28) | \$33.00 | \$22.00 |
| 51645AA (#45) | \$44.70 | \$16.00 |
| C6656AA (#56) | \$30.60 | \$15.20 |
| C6657AA (#57) | \$48.90 | \$23.00 |
| C6658AA (#58) | \$38.80 | \$23.00 |
| CB336WA (#74XL) | \$44.80 | \$29.50 |
| CB338WA (#75XL) | \$49.80 | \$30.00 |
| C6578DA (#78) | \$48.80 | \$19.90 |
| C9396A (#88 BK) | \$49.60 | \$21.30 |
| C9391/2/3A (#88C/M/Y) | \$36.40 | \$14.70 |
| C93662WA (#92) | \$23.20 | \$14.70 |
| C9361WA (#93) | \$30.00 | \$16.90 |
| C8765WA (#94) | \$31.30 | \$16.90 |
| C8766WA (#95) | \$36.40 | \$20.00 |
| C8767WA (#96) | \$44.80 | \$18.10 |
| C9363WA (#97) | \$50.20 | \$15.80 |
| C9364WA (#98) | \$26.40 | \$15.80 |
| C9369WA (#99) | \$37.80 | \$26.20 |

Samsung Color Laser Toner

| Model | Genuine | TONNY |
|---|----------|----------|
| CLP-300A BK | \$86.00 | \$36.00 |
| CLP-300A C/M/Y | \$78.00 | \$35.00 |
| CLT-409S BK for CLP-310/315, CLX-3170/3175 | \$70.00 | - |
| CLT-409S C/M/Y for CLP-310/315, CLX-3170/3175 | \$61.00 | - |
| CLP-510D7 BK | \$145.00 | \$92.00 |
| CLP-510D5 C/M/Y | \$160.00 | \$92.00 |
| CLP-600A BK | \$121.00 | \$123.00 |
| CLP-600A C/M/Y | \$172.00 | \$126.00 |

HP Toner Cartridges

| Model | Genuine | TONNY |
|--------|-----------|----------|
| Q2610A | \$ 183.00 | \$ 55.00 |
| Q6511X | \$ 316.00 | \$ 79.00 |
| Q2612A | \$ 106.00 | \$ 45.00 |
| Q2613A | \$ 109.00 | \$ 45.00 |
| C7115A | \$ 95.00 | \$ 45.00 |
| Q7516A | \$ 276.00 | \$105.00 |
| C4127X | \$ 194.00 | \$ 59.00 |
| CB435A | \$ 95.00 | \$ 54.00 |
| CB436A | \$ 107.00 | \$ 54.00 |
| Q1338A | \$ 235.00 | \$ 85.00 |
| Q5942A | \$ 226.00 | \$ 95.00 |
| Q5942X | \$ 343.00 | \$105.00 |
| Q5949A | \$ 109.00 | \$ 49.00 |
| Q5949X | \$ 201.00 | \$ 55.00 |
| Q7551X | \$ 330.00 | \$ 76.00 |
| Q7553A | \$ 123.00 | \$ 55.00 |
| Q7553X | \$ 227.00 | \$ 59.00 |
| C8061X | \$ 194.00 | \$ 59.00 |
| C4092A | \$ 90.00 | \$ 45.00 |
| C4096A | \$ 153.00 | \$ 59.00 |

HP Color Toner

| Model | Genuine | TONNY |
|------------|----------|----------|
| CB540A | \$109.00 | \$ 81.00 |
| CB541/2/3A | \$99.00 | \$ 81.00 |
| Q6000A | \$116.00 | \$ 78.00 |
| Q6001/2/3A | \$126.00 | \$ 78.00 |
| C9730A | \$339.00 | \$159.00 |
| C9731/2/3A | \$469.00 | \$159.00 |



Brother Toner Cartridges

| Model | Genuine | TONNY |
|------------------|-----------|-----------|
| TN-2025 | \$ 81.20 | \$ 49.00 |
| DR-2025 | \$ 149.20 | \$ 62.00 |
| TN-2150 | \$ 85.00 | \$ 49.00 |
| DR-2150 | \$ 147.00 | - |
| TN-3060 | \$ 117.00 | \$ 49.00 |
| TN-3185 | \$ 123.00 | \$ 49.00 |
| TN-6600 | \$ 110.90 | \$ 49.00 |
| TN-7600 | \$ 115.00 | \$ 49.00 |
| TN-8000 | \$ 47.00 | \$ 19.00 |
| TN-04BK | \$ 243.00 | \$ 99.00 |
| TN-04C/C/Y | \$ 243.00 | \$ 99.00 |
| TN-12BK | \$ 129.00 | \$ 72.00 |
| TN-12C/M/Y | \$ 263.00 | \$ 105.00 |
| TN-150/155 BK | \$ 81.00 | - |
| TN-150/155 C/M/Y | \$ 97.00 | - |

Samsung Laser Toner

| Model | Genuine | TONNY |
|--------------|----------|----------|
| SCX-4100D3 | \$110.00 | \$ 49.00 |
| SCX-4216D3 | \$110.00 | \$ 49.00 |
| SCX-D4200A | \$110.00 | \$ 49.00 |
| SCX-4521D3 | \$116.00 | \$ 49.00 |
| SCX-D4725A | \$110.00 | \$ 64.00 |
| SCX-5312D6 | \$86.00 | \$ 70.00 |
| SF-5100D3 | \$110.00 | \$ 49.00 |
| ML-1210D3 | \$110.00 | \$ 49.00 |
| ML-1610D2 | \$104.00 | \$ 49.00 |
| MLT-D108S | \$85.00 | - |
| MLT-D109L | \$137.00 | - |
| ML-1710D3 | \$110.00 | \$ 49.00 |
| ML-2010D3 | \$103.00 | \$ 49.00 |
| ML-2150D8 | \$204.00 | \$ 82.00 |
| ML-2250D5 | \$134.00 | \$ 59.00 |
| ML-D3050B 8k | \$263.00 | \$ 86.00 |

Canon Toner Cartridges

| Model | Genuine | TONNY |
|--------------------------|-----------|----------|
| CART 303(Q2612A) | \$ 89.00 | \$ 45.00 |
| CART 308(Q5949A) | \$ 89.00 | \$ 49.00 |
| CART 310 II(Q6511X) | \$ 264.00 | \$ 79.00 |
| CART 312 | \$ 81.00 | - |
| EP-22 (C4092A) | \$ 75.00 | \$ 45.00 |
| EP-26 | \$ 99.00 | \$ 45.00 |
| CART307BK(Q6000A) | \$ 99.00 | \$ 78.00 |
| CART307C/M/Y(Q6001/2/3A) | \$ 105.00 | \$ 78.00 |
| CART 301 BK (EP87 BK) | \$ 125.00 | \$ 77.00 |
| CART 301 C/M/Y (EP87CMY) | \$ 140.00 | \$ 77.00 |
| CART311BK | \$ 155.00 | - |
| CART311C/M/Y | \$ 199.00 | - |
| FX-3 | \$ 99.00 | \$ 45.00 |
| FX-7 | \$ 139.00 | \$ 65.00 |
| FX-9 | \$ 120.00 | \$ 49.00 |
| CARTN | \$ 231.00 | \$ 59.00 |
| CARTU | \$ 105.00 | \$ 45.00 |
| CARTW | \$ 149.00 | \$ 53.00 |
| E-31 | \$ 195.00 | \$ 55.00 |

Konica Minolta Color Laser Toner

| Model | Genuine | TONNY |
|---------------------------------------|----------|----------|
| QMS Magicolor 2300/2350 BK | \$121.00 | \$ 69.00 |
| QMS Magicolor 2300/2350 C/M/Y | \$161.00 | \$ 69.00 |
| QMS Magicolor 2400W/2430DL/2450 BK | \$119.00 | \$ 85.00 |
| QMS Magicolor 2400W/2430DL/2450 C/M/Y | \$164.00 | \$ 85.00 |

Canon Ink Cartridges

| Model | Genuine | TONNY |
|----------------------|---------|---------|
| BX-3 | \$47.00 | \$23.10 |
| BC-05 | \$59.60 | \$26.70 |
| BC-20 | \$62.00 | \$22.90 |
| PG-40 | \$34.00 | \$24.00 |
| CL-41 | \$35.00 | \$24.50 |
| BCI-3eBK | \$22.70 | \$ 6.40 |
| BCI-3eC/M/Y | \$20.40 | \$ 5.70 |
| BCI-6BK | \$24.10 | \$ 5.70 |
| BCI-6C/M/Y | \$24.10 | \$ 5.70 |
| BCI-6PC/PM | \$24.10 | \$ 5.70 |
| BCI-6G/R | \$24.10 | \$ 5.70 |
| CLI-8BK with chip | \$22.50 | \$ 9.80 |
| CLI-8C/M/Y with chip | \$22.50 | \$ 9.80 |
| PGI-5BK with chip | \$22.50 | \$ 9.80 |
| CLI-8BK no chip | - | \$ 5.70 |
| CLI-8C/M/Y no chip | - | \$ 5.70 |
| CLI-8PC/PM no chip | - | \$ 5.70 |
| PGI-5BK no chip | - | \$ 5.70 |
| BCI-15BK | \$24.90 | \$ 6.10 |
| BCI-16C | \$40.70 | \$ 6.30 |
| PG-510 | \$24.10 | - |
| CL-511 | \$27.40 | - |
| PGI520BK | \$19.30 | - |
| CLI521BK/C/M/Y | \$19.30 | - |
| BCI-24BK | \$15.30 | \$ 5.60 |
| BCI-24C | \$31.00 | \$ 6.90 |



Kyocera Toner Cartridges

| Model | Genuine | TONNY |
|-------------|----------|----------|
| TK-16H | \$ 73.00 | \$ 61.00 |
| TK-17 | \$103.00 | \$ 35.00 |
| TK-18 | \$123.00 | \$ 38.00 |
| TK-310 | \$130.00 | \$ 59.00 |
| TK-510K | \$ 98.00 | - |
| TK-510C/M/Y | \$172.00 | - |

Panasonic Toner Cartridges

| Model | Genuine | TONNY |
|--------------------------------|----------|----------|
| UG-3313 | \$242.00 | \$ 73.00 |
| UG-5545 | \$242.00 | - |
| KX-PDP8 Toner for KXP7100/7110 | \$136.00 | \$ 68.00 |

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| 2402-9 | ExpressCard to Gigabit LAN | | \$119 |
| 2401-9 | ExpressCard to eSATA - 2 Port | | \$119 |
| 2403-9 | ExpressCard to Firewire (1394A) | Cat 2404 | \$129 |
| 2404-9 | ExpressCard to Firewire & USB Combo | | \$139 |
| 2457-9 | PCIe to ExpressCard Adapter | | \$109 |
| 2408-9 | USB to ExpressCard Adapter | | \$129 |
| 2407-9 | ExpressCard into PCMCIA Slot Adapter | | \$79 |

USB Converters

| Cat. No. | Description | | Price |
|----------|------------------------------|-----------|-------|
| 2729-9 | USB to Parallel - DB25 | Cat 2685 | \$59 |
| 2685-9 | USB to Parallel - Centronics | | \$35 |
| 2920-9 | USB to Serial (RS232) 1 Port | Cat 2929 | \$59 |
| 2929-9 | USB to Serial (RS232) 8 Port | | \$459 |
| 2853-9 | USB to RS422/485 1 Port | | \$249 |
| 2907-9 | USB to RS422/485 4 Port | Cat 23025 | \$560 |
| 23025-9 | USB to 5.1 Sound Adapter | | \$45 |

Network Switches

| Cat. No. | Description | | Price |
|----------|-----------------|-----------|-------|
| 11333-9 | 5 Port 10/100 | Cat 11333 | \$39 |
| 11334-9 | 8 Port 10/100 | | \$49 |
| 11323-9 | 16 Port 10/100 | Cat 11334 | \$99 |
| 11324-9 | 24 Port 10/100 | | \$139 |
| 11435-9 | 5 Port Gigabit | Cat 11323 | \$89 |
| 11436-9 | 8 Port Gigabit | | \$129 |
| 11535-9 | 16 Port Gigabit | Cat 11324 | \$349 |

Optical Audio Equipment

| Cat. No. | Description | | Price |
|----------|------------------------------------|-----------|-------|
| 23000-9 | 3 Port Switch - Toslink | Cat 23000 | \$39 |
| 23001-9 | 3 Port Switch - Mini Plug | | \$39 |
| 23002-9 | 4 Input, 2 Output Switch - Toslink | Cat 23006 | \$118 |
| 23006-9 | Toslink to S/PDIF Converter | | \$52 |
| 23005-9 | S/PDIF to Toslink Converter | | \$52 |
| 23007-9 | Optical Extender to 25m | Cat 23007 | \$52 |

What's New?

Bluetooth GPS Logger

Perfect for keeping track of your fleet.

The latest addition to the MicroGram GPS range is an all-in-one wonder. This device can be used as a Bluetooth GPS receiver, for use with mobile phones & PDAs etc. It will also function as a USB GPS receiver for use with laptops & mobile PCs. The GPS Logger also has built in memory to store up to 130000 way-points that can be logged either automatically or by press button. The GPS can also be configured to automatically log when certain speeds or altitudes are reached. Once plugged in again via USB all the logged GPS data can be downloaded via the included software & displayed on Google Earth, or you can import the data into your preferred mapping software. **Cat. 11587-9 \$198.50**



Cat 11587

26" LCD TV with Integrated PC

Save space and money with this unique hybrid.

This great new TVISIO hybrid LCD PC allows you to watch TV, play DVDs and games consoles or work in Windows all with the press of a button. You can even watch TV while working in Windows with the picture-in-picture (PIP) function. These are great for use in the home-office, as a point-of-sale display, as a digital signage solution or as a personal media centre perfect for the living room or bedroom. **Cat. 1410-9 \$1699**

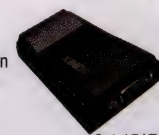


Cat 1410

USB to VGA for multiple screens

New model allows up to six adapters to be used at once!

Dual head video cards are now in abundance, however if you require more than two displays it can still be expensive. Thankfully with MicroGram's new USB to VGA adapter you can add up to six extra displays, without even opening the case. (One adapter is required per additional display). **Cat. 15179-9 \$197**



Cat 15179

Intel LGA775 Motherboard with ISA slots

Need a PC with ISA slots for expensive legacy cards?

Some medical and industrial equipment still relies on old ISA cards to interface with a PC. As the cost of these interface cards can be thousands of dollars it is sometimes more cost effective to buy a new PC. MicroGram can supply a motherboard that has two ISA slots with the latest Intel CPU socket (LGA775). **Cat. 17115-9 \$649**

Cat 17115

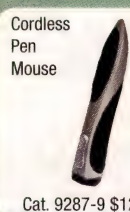


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Cat. 6303-9 \$289



Cat. 1177-9 \$1049



Cat. 17085-9 \$169



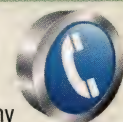
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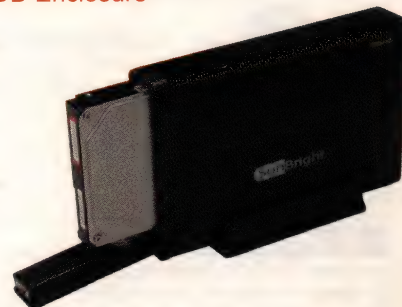
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| Office 2007 Professional | \$469 |
| Kaspersky Internet Security 9.0 | \$40 |
| Kaspersky Anti-Virus 9.0 | \$30 |
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| Canon MX310 All in 1 inkjet | \$129 |
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| Intel Core 2 Dual E8400 3.0G/6M/LGA775 | \$287 |
| Intel Core 2 Quad Q8200 2.33G/4M/LGA775 | \$291 |
| Intel Core i7 920 2.66GHz/8M/LGA1366 | \$488 |
| AMD Athlon x2 Dual Core 6000+ | \$129 |
| AMD Phenom x4 Quad Core 9950 | \$267 |

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| Logitech New Touch 200 USB Keyboard | \$19 |
| Logitech Deluxe 660 Cordless desktop | \$41 |
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| Logitech G15 Gaming Jeux Keyboard | \$120 |

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| Pioneer BDC-S02BK Blu-Ray reader DVD-RW | \$162 |
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| GF 8500GT ZOTAC 256M | \$63 |
| GF 9600GT Galaxy 512M | \$154 |
| GF 9800GT Galaxy 512M/1G | \$182/\$213 |
| GTS 250 Galaxy 512M/1G | \$253/\$277 |
| GTX 275 Palit 896M | \$456 |
| GTX 285 Gigabyte 1G | \$635 |
| GTX 295 Galaxy 1792Mb | \$817 |
| ATI - PCIe | |
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| HD 4670 Hightech 512M | \$139 |
| HD 4870 Hightech 512M/1G | \$301/\$343 |

Motherboards



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| Gigabyte GA-EG31M-S2 | \$113 |
| Gigabyte GA-EG41MF-S2H | \$155 |
| Gigabyte GA-EX58-UD3R-SLI | \$376 |

For AMD CPU

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| ASUS M3N78-EM | \$154 |
| ASUS M3N72-D SLI | \$214 |
| ASUS M3A78-EM | \$143 |

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| 250G Seagate Barracuda 8m/16m | \$79/\$82 |
| 500G Seagate Barracuda 16m buffer | \$95 |
| 500Gb Western Digital 16m buffer | \$103 |
| 1TB Seagate Barracuda 32m buffer | \$188 |
| - IDE 3.5" | |
| 80Gb Western Digital 8m buffer | \$79 |
| 160G Seagate Barracuda 8m buffer | \$83 |
| 250Gb Western Digital 8m buffer | \$110 |
| 320Gb Western Digital 8m buffer | \$120 |
| 500Gb Western Digital 16m buffer | \$140 |
| External HDD 3.5" 500GB Seagate | \$156 |
| External HDD 2.5" 320GB Lacie | \$139 |

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| 1G/2G/4G DDR2 6400 | \$27/\$41/\$73 |
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Provides fully automatic fax reception, just like having a separate line. Two models are available.

INTELLIGENT FAXSWITCH

FAX SWITCH will allow your existing Fax Device to connect to a Single Telephone line or a Multi Line (PABX) phone system, to provide for FULLY AUTOMATIC Fax operation. Will operate with all existing telephones and also an Answering machine.



INTELLIGENT MODEMSWITCH

MODEM SWITCH allows your existing Data Modem Device to connect to any Single Telephone Line, Fax Line or a Multi Line (PABX) phone system, to provide for FULLY AUTOMATIC Dial In & Dial Out Modem Data operation. Models available that allow up to 8 devices on 1 line.



EFTPOS SWITCH

EFTPOS switch will allow your existing EFTPOS device to share any existing Single Telephone Line, Fax Line or a Multi Line (PABX) phone system. Provides automatic connection on dialing. BARGE-IN protection prevents interference when line is in use. Alternative model will allow operation



MISCELLANEOUS TELEPHONE LINE APPLICATIONS

VOIP SELECTOR

This device will allow you to connect one or more telephones to your TELEPHONE LINE and VOIP LINE. Incoming calls from either line ring on the connected telephone(s). Outgoing calls are automatically DEFAULTED to ONE LINE, but the alternative line can be selected by DTMF code.



TWO LINE SELECTOR

Premium device will allow you to connect one Telephone Device to two Telephone lines (Telstra, Optus, VOIP, PABX etc). Ideal for EFTPOS, Cordless Phones, Modems etc. Additional features are provided, including automatic (or manual) selection of an alternative line if the default line is busy.



TELEPHONE CALL TRANSFER

Easy-Transfer will allow you to answer a call on one telephone and then TRANSFER the call to another telephone fitted to the same line. Also provides INTERCOM facility. Uses your existing telephones.



MULTIPLE NUMBER SWITCH

Operate Two numbers on one line. This device will connect your Multiple number calls to one set of phones or answering machine and your Normal number calls to another set of phones or answering machine.



TELEPHONE LINE ON HOLD SOLUTIONS

DIGITAL ON HOLD

DMC, Australia's Leading On Hold player, is an MP3 based Message On Hold Device, designed to provide the High Quality and High Reliability that is necessary for all telephone On Hold applications. Easy message change provided by replacing memory card.



ELECTRONIC MESSAGE UPDATE

DMS is available with range of optional Automatic electronic message update methods including Email, Modem, FTP and Network IP. We have a National Network of Dealers ready to produce your customized message.



SINGLE LINE ON HOLD

Just plug our MOH Line Starter into any socket on your single telephone line, connect any audio source (Radio, PC or DMC) and you now have a professional telephone line On Hold facility for your existing telephones.



AUTOMATIC CALL ATTENDANT

Our single line CALL ATTENDANT will answer your incoming calls after a preset number of rings, play a greeting & then put your call on hold, until you are able to answer. Also provides Message on Hold facility for your single line.



MORE MISCELLANEOUS EQUIPMENT

TELEPHONE LINE SIMULATOR

This TELEPHONE LINE SIMULATOR can be used for testing, programming & demonstration of analogue telecommunications equipment, without the need to use a telephone line and generating costly calls. 4 Models are available.



RING INDICATOR

This device detects incoming calls and will close/open a relay to match the cadence of the incoming ring. Can also be set to close a relay until a call is answered. Ideal for control of external horns or lights to advise of an incoming telephone call.



REMOTE TELEPHONE ACTIVATOR

Call in to Switch ON, Switch OFF or RESET your PC, SERVER or any electrical device by telephone line using touch tone commands. RTA connects to any telephone line. Requires PCU accessory. 3 models are available.



POWER CONTROL UNIT

PCU connects direct to the RTA and also to your power socket to allow telephone line dial in switching of the 240V supply connected to your equipment. Easy Plug in User Installation. Controls up to 10 Amps.



DIGITAL AUDIO EQUIPMENT

MESSAGE ON DEMAND

TDS can be programmed with up to 350 MP3 based messages stored on an MMC/SD card, which can be recalled and played by keypad entry or time programmed sequences.



BACKGROUND MUSIC SYSTEM

High Quality BMS holds up to 100 of MP3 Music Messages on a SD Flash Card. Plays Messages at time set intervals. Powerful internal amp will allow direct connection of up to 3 speakers. Low Level outputs also provided. Has encryption facility.



TALKING DISPLAY UNIT

TDU will play 1 or more pre-recorded messages as soon it is triggered by a movement sensor, a switch or a preset time interval. Ideal for Product Promotions, Product Information, Message Warnings etc.



MULTIPLE INPUT UNIT

MUI will allow for up to 12 separate movement sensors or switches to be connected to the TDU. Each sensor triggers its own unique message output via any 8 ohm unpowered, powered or amplified speaker.



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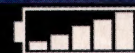
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